

ARMED FORCES MEDICAL LIBRARY

1926.



CITY AND COUNTY OF BRISTOL.

PORT OF BRISTOL.

ANNUAL REPORT

OF THE

Medical Officer of Health

INCLUDING

Report of Port Medical Officers of Health.

Printed by order of the Health Committee.

BRISTOL :

LODGE & SON, PRINTERS, 43 WEST STREET.

ARMY MEDICAL LIBRARY
FOUNDED 1836



WASHINGTON, D.C.



The Health of Bristol

(City and Port)

IN

1926.

BY

D. S. DAVIES, M.D., LL.D., D.P.H., etc.,

*Medical Officer of Health, City and County and Port of Bristol ;
Principal Officer of the Medical Services of the City ; formerly
Lecturer in Charge of Public Health, University of Bristol, and
Internal Examiner to the University ; sometime Examiner to the
Universities of London, Cardiff and Belfast, and to the Conjoint
Board ; late Medical Inspector to H.M. Loc. Govt. Bd. on
Cholera Survey and General Sanitary Survey of England ;
Surgeon-Col. 1st Glos. R.G.A. (V.), retd ; V.D. Lt. Col.
R.A.M.C. (T.), retd., etc.*



BRISTOL :
LODGE & SON. PRINTERS, 43 WEST STREET.

HEALTH COMMITTEE

(as at 31st December, 1926).

The Lord Mayor :

EDWARD MALACHI DYER, Esq., J.P.

Chairman :

COUNCILLOR J. L. BROWN, J.P.

Vice-Chairman :

COUNCILLOR J. E. JONES.

COUNCILLOR F. T. COZENS.

„	G. DANIEL.
„	T. B. DIXON, M.R.C.S., L.R.C.P.
„	A. E. HILL.
„	A. P. KEEN.
„	H. W. F. LIVERMORE.
„	J. J. MILTON, J.P.
„	J. V. PARKER.
„	J. PRISCOTT.
„	MRS. E. S. ROBINSON, J.P.
„	F. E. WHITE.
„	H. A. WHITE.
„	T. J. WISE.

Sub-Committees.

Port Sanitary Sub-Committee. Farms & Gardens Sub-Committee.

Councillor J. L. BROWN, J.P. Councillor J. L. BROWN, J.P.

„	J. E. JONES.	„	J. E. JONES.
„	T. B. DIXON.	„	G. DANIEL.
„	H. W. F. LIVERMORE.	„	A. E. HILL.
„	A. E. HILL.	„	J. J. MILTON, J.P.
„	G. DANIEL.	„	H. A. WHITE.
„	A. P. KEEN.	„	T. J. WISE.
„	J. V. PARKER.		
„	J. PRISCOTT.		

Ham Green Sub-Committee.

Councillor J. L. BROWN, J.P.

„	J. E. JONES.
„	E. T. COZENS.
„	T. B. DIXON.
„	J. V. PARKER.
„	Mrs. ROBINSON, J.P.
„	F. E. WHITE.

General Purposes Sub-Committee.

Councillor J. L. BROWN, J.P.

„	J. E. JONES.
„	T. B. DIXON.
„	A. E. HILL.
„	A. P. KEEN.
„	J. J. MILTON, J.P.
„	J. PRISCOTT,
„	Mrs. E. S. ROBINSON, J.P.
„	F. E. WHITE.
„	H. A. WHITE.
„	T. J. WISE.
„	A. P. KEEN.

Tuberculosis Sub-Committee.

Councillor J. L. BROWN, J.P.

„	J. E. JONES.
„	H. W. F. LIVERMORE.
„	J. V. PARKER.
„	J. PRISCOTT.
„	H. A. WHITE.

Maternity and Child Welfare Committee.

Full Health Committee, and the following
Co-Opted Members :—

Mrs. E. H. C. WETHERED	representing Schools for Mothers.
Miss MEADE-KING	„ Bristol Civic League.
Mrs. WALKER	
Mrs. W. BROWN	„ Fishponds Nursing Association.
Miss F. M. TOWNSFND, J.P.	„ National Federation of Women Workers.
Mrs. KNIGHT	„ Bristol Insurance Committee.
Miss HARRINGTON	„ Bristol and District Midwives' Association.
Mr. H. J. MAGGS, J.P.	

Public Health Staff

(as at 31st December, 1926).

MEDICAL OFFICERS.

Medical Officer of Health (City and Port).	*D. S. DAVIES, M.D., LL.D., D.P.H.
Deputy Medical Officer of Health & School Medical Officer.	*R. A. ASKINS, M.A., M.D., D.P.H., Barrister-at-Law.
Tuberculosis Officer and Visiting Medical Officer, Frenchay Park Sanatorium.	*C. J. CAMPBELL FAILL, F.R.C.P. Ed.
Assistant Tuberculosis Officer.	*J. SCOTT CURRIE, M.B., Ch.B. Glasg.
Resident Medical Officer, Ham Green Hospital and Sanatorium.	†B. A. I. PETERS, B.A., M.D., D.P.H.
Assistant Resident Medical Officer, Ham Green Hospital and Sanatorium.	†F. J. HECTOR, M.D.
Assistant Resident Medical Officer, Ham Green Hospital and Sanatorium.	†S. F. ALLISON, M.B., Ch.B. Ed., D.P.H.

(*Part Time*).

Assistant Port Medical Officer of Health and Medical Officer i/c Maternity and Child Welfare.	*J. C. HEAVEN, L.R.C.P., M.R.C.S., D.P.H.
Clinic Medical Officers— St. Augustine, Barton Hill, and Two Mile Hill Ante-Natal Clinics.	*LILY A. BAKER, F.R.C.S.I., M.B., Ch.B.
Redcliffe and Bedminster Ante-Natal Clinics.	*BEATRICE ROGERS, L.R.C.P.&S.Ed., L.R.F.P.S. Glas.
North Bristol Ante-Natal Clinic.	*MARGUERITE G. HUGHES, M.B., Ch.B.
Horfield Ante-Natal Clinic.	*MADGE GOLDING, M.B., Ch.B.
Moorfields Infant Clinic (Minor Ailments).	*R. C. CLARKE, M.B., Ch.B., M.R.C.P.
Venereal Diseases Clinic.	*S. HARDY KINGSTON, M.B., Ch.B., D.P.H.
Consulting Surgeon, Tuberculosis Scheme.	*H. CHITTY, M.S., F.R.C.S.
Visiting Medical Officer, Novers Hill Hospital.	E. H. C. PAULI, M.R.C.S., L.R.C.P.

CITY.**Sanitary Officers.**

Chief Sanitary Inspector (City & Port)	-	*J. A. ROBINSON, 1, 2.
Superintendent Sanitary Inspector	-	T. J. CROFTS, 1, 2.
Meat and Food Inspectors	-	A. GITSHAM, 1, 2. A. E. HALL, 1, 2. F. CLIFFORD, 1, 2.
Milk & Dairies & Cowsheds Inspectors	-	H. C. LEAT, 1. A. E. KING, 1.
Workshops Inspector	-	W. J. WREFORD, 1.
Common Lodging Houses and Houses let in Lodgings Inspector	-	P. C. BULL, 1. H. J. KIRLEY, 1.
District Sanitary Inspectors	-	F. KIRLEY, 1. J. B. PASKE, 1, 2. J. HOLMES, 1. G. H. LIPPETT, 1, 2. H. M. GOULD, 1, 2. T. J. CLEAL, 1, 2. A. W. SIMMONS, 1. G. NEWBURY, 1, 2. P. HAYTER, 1.

PORT.

Port Sanitary Inspectors	-	*E. H. SCORRER, 1, 2. *W. R. GIBBS, 1, 2. *C. W. GOULD, 1, 2. *R. M. SCORRER, 1.
Assistant Port Sanitary Inspector	-	*J. ROWE.

1. Certificated Sanitary Inspector.
2. Certificated Meat and Food Inspector.

Housing Officers.

Chief Housing Inspector	-	-	A. W. GRIFFITHS, 1, 4.
Housing Inspectors	-	-	A. T. WINSTONE, 1, 2. G. H. ROSE, 3.
Clerks	-	-	F. G. EASTABROOK, 1. H. F. BELLRINGER, 1, 3. J. HUGUET. MRS. M. CARD. A. E. HOBBS.
1.	Certificate, Building Construction, etc.		
2.	Certificated Clerk of Works.		
3.	Architect and Surveyor.		
4.	Certificated Sanitary Inspector.		

Nursing Staff.**Health Visitors, Home Nurses and Clinic Nurses.****HOME NURSES (for Infectious Disease).**

*Miss E. M. GOULD, 1, 3.	*Miss A. KIRBY, 1, 3, 4, 7.
	*Miss L. BLUNDELL, 1, 1a.

HEALTH VISITORS & TUBERCULOSIS HOME VISITORS.

Superintendent Health Visitor and Deputy Inspector of Midwives	-	-	*Miss W. M. RICHARDS, 1, 3, 4, 5.
Clinic Sisters—			
M. & C. W. Clinics	-	-	*Miss R. B. VERBEYST, 1, 3, 4.
Tuberculosis Dispensaries	-	-	*Miss A. R. MAGGS, 1, 4.
District Health Visitors	-	-	*Miss R. S. MERRETT, 1, 3. *, E. OSBORNE, 1a, 1b, 3, 4. *, A. L. PRESSLEY, 1, 3, 4.

NURSING STAFF (*Continued*).

District Health Visitors	-	*	F. K. WOODALL, 1.
		*	D. G. HUNT, 1, 7.
		*	E. FISHER, 1, 4.
		*	A. M. VERNON, 1, 3.
		*	E. M. ROBERT, 2, 3, 4, 7.
		*	H. V. BRACEY, 1, 3, 5, 7.
		*	D. HOOPER, 1, 1a.
		*	E. M. WILLMORE, 1, 1a.
		*	L. J. HODGES, 1, 3, 4.
		*	A. JAMES, 1, 3.
		*	D. MARSHALL, 1, 3.
		*MRS.	M. F. LAWRENCE, 2, 3, 4.
		*MISS	E. GODFROY, 1, 3.
		*	A. H. HARDING, 1, 3.
		*MRS.	H. I. BOLT, 1, 6.
		*MISS	K. CARNELL, 1, 3, 4.
		*	E. MITCHELL, 1, 3, 7.
		*	D. L. BARTLETT, 1, 3.
Dispensary Clinic Nurses	-	*Miss	D. SPARKES, 1, 3.
		*	E. PARKER, 1, 3.
1.	Trained medical and surgical nurse; 1a, Fevers; 1b, Maternity.		
2.	Trained Infant Welfare Worker.		
3.	Certificated Midwife.		
4.	Certificated Health Visitor.		
5.	Certificated Masseuse.		
6.	Certificated Sanitary Inspector.		
7.	Other special qualifications.		

City Hospitals.*HAM GREEN HOSPITAL AND SANATORIUM.*

Matron	-	-	-	+Miss M. GARDEN.
Assistant Matron & Sister-Tutor	-	-	-	+SISTER A. KNOX.
Assistant Matrons	-	-	-	+SISTER L. M. LEWIS. +SISTER H. DAVIES.
Dispenser	-	-	-	+Miss W. M. BLACKETT.
Junior Clerk	-	-	-	+Miss E. STENNER.

NOVERS HILL HOSPITAL.

Home Sister	-	-	-	SISTER E. E. LANE.
Nursing Superintendent	-	-	-	SISTER E. R. WILLCOX.

FRENCHAY PARK SANATORIUM.

Matron	-	-	-	*Miss L. ALLEN.
School Mistress	-	-	-	*Miss G. N. BOWYER.

Clerical Staff.

Chief Clerk	-	-	C. W. M. VINCENT.
Second Clerk	-	-	J. G. WATSON.
E. E. MASTERS	*	L. F. ROBERTS	*Miss O. S. WILLIAMS
*L. J. FRICKER	*	H. G. ADAMS	C. L. DURBIN
*F. D. SAINSBURY	*	C. C. HANCOCK	A. H. ELWELL
E. M. HISCOX	*	W. J. JEWELL	*J. H. WARD
C. L. BRYANT	*	A. L. LONG	C. F. FUSSELL
*A. E. STOCK	*	P. V. GOODWAY	L. T. SULLY
W. E. LLEWELLYN	*	H. C. PRATT	
A. R. SHERMAN	*	Miss M. QUARM	

* Salary contribution made under Public Health Acts or by Exchequer grants.

† Salary allocated for grant as indicated in L.G.B. Circular (Treatment of Tuberculosis) dated 7th Nov., 1913).

CONTENTS, 1926.

(See also lists of Tables and Diagrams).

CITY.	Page
REPORT OF THE MEDICAL OFFICER OF HEALTH ...	1
Origin of disease, The physically defective child, Rheumatism, Small-pox in the north, Schick re-action-protection by toxoid-antitoxin, Dick test, Mites in furniture, Flues for geysers, Cancer investigation, Arsenic on apples, Bristol Corporation Act, 1926, Hospital accommodation, Home visitation of infectious disease, Maternity and child welfare, School medical service.	
NATURAL AND SOCIAL CONDITIONS ...	21
Acreage, population, site and soil, parks and open spaces, inhabited houses, families, rateable value, poor law relief, water supply, sewerage, etc.	
VITAL STATISTICS ...	24
Births, marriages, deaths, infantile mortality.	
CAUSES OF SICKNESS ...	31
Community infection and protection, Accidents as a cause of mortality, Return cases of scarlet fever, Diphtheria at Mullers Orphan Houses, Acute anterior polio-myelitis and acute polio-encephalitis, After-effects of encephalitis lethargica, Dysentery, Malaria, Influenza pneumonia and acute primary pneumonia, Measles and german measles, Infantile diarrhoea, Bronchitis and Pneumonia, Tuberculosis.	
REPORT OF THE TUBERCULOSIS OFFICER, 1926 ...	57
Summary of work at Tuberculosis Dispensaries, Sanatorium treatment results.	
REPORT ON THE VENEREAL DISEASES REGULATIONS, 1916 ...	62
Centres, laboratory facilities, supply of salvarsan substitutes, facilities provided by Guardians, Port facilities, propaganda.	
REPORT OF THE MEDICAL OFFICER i/c MATERNITY AND CHILD WELFARE ...	64
Supervision of midwives, ante-natal work, maternity beds, treatment after parturition, Puerperal Fever and Puerperal Pyrexia Regulations 1926, clinics, schools for mothers, etc., milk grants, Ophthalmia Neonatorum Regulations, 1926, dental treatment, lactation establishment, Health Visiting Staff, Midwives and Maternity Homes Act, 1926, summary of work.	
REPORT OF THE RESIDENT MEDICAL OFFICER, HAM GREEN HOSPITAL, 1926 ...	73
REPORT OF THE VISITING MEDICAL OFFICER, NOVERS HILL HOSPITAL, 1926 ...	74
AMBULANCE FACILITIES ...	75
REPORT OF THE CHIEF SANITARY INSPECTOR, 1926 ...	75
Bakehouses, food premises, meat inspection, slaughterhouses, Meat Regulations, 1924, milk, milk licences, pasteurising plants, houses let in lodgings, common lodging houses, tents vans sheds, etc., scavenging, closet accommodation, workshops, homework, offensive trades, smoke abatement, summary of inspection work.	
REPORT OF THE CHIEF HOUSING INSPECTOR, 1926 ...	82
Synopsis, housing statistics, unfit houses, proceedings, houses repaired.	
REPORT ON THE PUBLIC HEALTH (MILK AND CREAM) REGULATIONS, 1912 AND 1917, FOR 1926 ...	86
REPORT BY THE SUPERVISING OFFICER, MENTAL DEFICIENCY ACT, 1913, FOR 1926 ...	87
THE WEATHER OF 1926 ...	88

<i>PORT.</i>	<i>DIAGRAMS.</i>	<i>PAGE</i>
REPORT OF THE MEDICAL OFFICERS OF HEALTH Cholera, Plague and Yellow Fever Regulations, general medical inspection in the Port, notifications and deaths.		116
RATS AND MICE DESTRUCTION ACT, 1919		120
MEDICAL INSPECTION OF ALIENS		125
REPORT OF THE CHIEF PORT SANITARY INSPECTOR, 1926 ...		127
REPORT ON CANAL BOAT INSPECTION, 1926 ...		131
REPORT ON PUBLIC HEALTH (REGULATIONS AS TO FOOD) ACT, 1907		132
<i>CITY.</i>	<i>DIAGRAMS.</i>	
Diagram		
1. Illustrating the correct methods of geyser ventilation ...		15
2. Births—variations from the mean Birth Rate since 1877, 50 years		23
3. Marriages—variations from the mean Marriage Rate since 1886, 41 years		25
4. Deaths—variations from the mean Death Rate since 1877, 50 years		27
5. Infant Mortality—variations from the mean Infant Mor- tality Rate since 1877, 50 years		29
6. Small-pox—variations from the mean Small-pox Death Rate since 1877, 50 years		33
7. Scarlet Fever—variations from the mean Scarlet Fever Death Rate since 1877, 50 years		35
8. Diphtheria—variations from the mean Diphtheria Death Rate since 1877, 50 years		39
9. Enteric Fever—variations from the mean Enteric Fever Death Rate since 1877, 50 years		43
10. Acute Anterior Polio-Myelitis and Acute Polio- Encephalitis—Distribution of notifications in Regis- tration Counties of England and Wales in 1925 & 1926		46
11. Measles—variations from the mean Measles Death Rate since 1877, 50 years		52
12. Whooping Cough—variations from the mean Whooping Cough Death Rate, since 1877, 50 years		54
13. Influenza—variations from the mean Influenza Death Rate since 1890, 37 years		56
14. Pulmonary Tuberculosis—variations from the mean Pulmonary Tuberculosis Death Rate since 1877, 50 years		58
<i>PORT.</i>		
Plan of the Bristol Port Sanitary District		115
TABLES.		
<i>CITY.</i>	<i>(Miscellaneous Tables in Letterpress).</i>	
Table		
I. Rheumatism Deaths (under 15 and all ages) since 1917		6
II. Results of Schick methods and Protection by Toxoid- Antitoxin at Ham Green Hospital since 1922 ...		11
III. Comparative Death and Infant Mortality Rates in five large towns since 1922		30
IV. Small-pox—1884 to 1926, (Notifications and Deaths)		34
V. Scarlet Fever—1890 to 1926 (Notifications and Deaths)		36
VI. Scarlet Fever—Return case rates since 1921 ...		38
VII. Diphtheria—1890 to 1926 (Notifications & Deaths) ...		40
VIII. Enteric Fever—1890 to 1926 (Notifications & Deaths)		42
IX. Measles and German Measles—1916 to 1926 (Cases and Deaths)		51

CITY.

Table		<i>Page</i>
X.	Whooping Cough—1924 to 1926 (Cases and Deaths) ...	53
XI.	Chicken Pox and Mumps—1924 to 1926 (Cases) ...	53
XII.	Infantile Diarrhoea—1911 to 1926 (Deaths in August and September)	55
XIII.	Percentage total deaths of infants under one year from Respiratory Diseases, Diarrhoea, Measles and Whooping Cough—1905 to 1926	57
XIV.	Tuberculosis (new cases and deaths) at age periods in 1926	59
XV.	Puerperal Fever—1921 to 1926 (Notifications and Deaths)	66
XVI.	Ophthalmia Neonatorum—1922 to 1926 (Notifications and Blindness)	68

GENERAL TABLES.

1.	Causes of and ages at Death, Births registered and notified, including City Rates, for 1926	96
2.	Causes of Infant Mortality for 1926	97
3.	Registrar General's provisional Birth Rates, Death Rates and Analysis of Mortality for England and Wales, etc., for 1926	98
4.	Notifications of Infectious Disease and Tuberculosis in 1926	99
5.	Populations, Births, Marriages, Deaths, Infantile Mortality and Zymotic Rates since 1877 (50 years) ...	100
6.	Deaths from communicable diseases since 1877 (50 years)	101
7.	Notifications of Infectious Disease and Tuberculosis since 1890 (37 years)	102
8.	Sanatoria available and admissions, etc., in 1926 ...	103
9.	Results of Sanatorium treatment in 1926 ...	104
10.	Analytical Data (Chemical and Bacteriological) of City Water Supply in 1926	105
11.	Pathological and Bacteriological Examinations in 1926 ...	106
12.	Cases treated at Venereal Disease Clinics in 1926 ...	107
13.	Maternity and Child Welfare Clinics and Treatment Centres in 1926	108
14.	Housing Act, 1925, Houses represented as unfit since 1918	112
15.	Housing Act, 1925—(a) Summary of proceedings and (b) Houses satisfactorily repaired ...	113
16.	Factory and Workshop Act, 1901—Inspection of and defects found in Factories, Workshops and Workplaces in 1926 (Form 572)	114

PORT.

Table

17.	The amount of shipping entering the Port Sanitary District in 1926 (Form A)	120
18.	Rat destruction, etc., on docks in 1926 (Form B) ...	121
19.	Particulars for 1926 relating to vessels "infected" or "suspected" or from "infected ports" with list of Bristol and Gloucester bound ships requiring medical inspection (Form C)	122
20.	Vessels (other than those dealt with in Form C) subjected to measures of rat destruction (Form D) ...	123
21.	Sickness on ships during voyage or on arrival in 1926 ...	124
22.	Particulars of ship inspection in Port Sanitary District in 1926 with action taken and results ...	128
23.	Table shewing percentage of defects on British and Foreign vessels in 1926	129
24.	List of Foreign Ports from which ships arrived in 1926 ...	129

CITY OF BRISTOL.

ANNUAL REPORT, 1926.

My Lord Mayor, Ladies and Gentlemen,

In July, 1924, the City Council, wishing to co-ordinate as far as possible the medical work of the City, and recognising its enormous growth both in area and population during the past 41 years,* appointed the School Medical Officer to be Deputy Medical Officer of Health, at the same time strengthening the school medical service, and thus completed the consolidation of the medical health services under one administrative chief Medical Officer of Health. The Council further signified their wish for unity in the City medical health services by appointing the Medical Officer of Health the "Principal Officer of the Medical Services of the City," which, though not a statutory appointment, sufficiently indicates their intention.

But full co-ordination over the whole of England can hardly come to pass until adequate facilities for all preventive work are assured by the economical establishment of a limited number of fully equipped sanitary areas of size adequate to meet the necessary financial responsibilities, in place of the thousand or more petty districts with exiguous means, in which a medical officer of health, however capable, must often be unfairly saddled with a responsibility beyond the possibility of his district to meet.

	Area in Acres.	Population.
* 1885	4,500	220,000
1926	18,400	383,300
Increase	<hr/> 13,900	<hr/> 163,300

Origin of Disease.

In stating the view that at the present day the specific fevers always arise from a previous case and do not arise *de novo*, one is often met by the question "How did the first case arise?" An attempt to answer this follows, for the information of the Committee :—

With regard to the origin of life on the earth one can only say, with Prof. A. Thomson—"We do not *know* anything in " regard to the origin of life. The only certainty is a negative " one—there is no established case in which living organisms " have arisen apart from parent organisms of the same kind " —but this does not exclude the possibility—

- (a) that this once took place,
- (b) that it is taking place now, or
- (c) that it may be made to take place again.

This is, however, rather a different problem from the question of the origin of the specific diseases—which I considered at some length in my presidential address to the Bristol Medico-Chirurgical Society in 1900, published in their Journal.

These specific diseases are due to organisms which have assumed the parasitic habit and adopted man as their host or as one of their hosts. A *parasite is an organism, originally free living, which prefers a lazy life to an active one, and having become attached to some host where it obtains the basic necessities of existence—warmth, moisture and food—degenerates so as to lose all working appendages and becomes a parasitic species, retaining only the powers of feeding and reproducing. Example—intestinal worms, tape worms, also thread worms (nematoids).

There still exist free water-living Nematoids which feed on organic matter present in the water, but their food supply is precarious, and if the pools dry, they are threatened with extinction. If taken into the stomach by animals in drinking, they obtain warmth, moisture and food without exertion.

By natural selection, those able to adapt themselves to the conditions survive and thus a parasitic species becomes established, which is always a degenerate form of the free living animal. These parasites then follow the general laws of parasitism in regard to mode of *entry, migration and exit.* (*op. cit.*) †

Similarly the bacillus of enteric fever and the spirillum of cholera, both furnished with paddles for movement in water, may be assumed to be derived from free-living water forms, which have casually assumed the parasitic habit of living in the intestine, and these members of a quite small group of intestinal diseases *do* bear some relationship to water supplies and drainage.

As sanitary reform commenced under the stimulus of cholera, the public, readily succumbing to the logical fallacy of arguing from the particular instance to the general, assumed that all the specific communicable diseases were of the same nature, and that sanitary reform was the cure for all; a belief which has blocked and is blocking progress to a remarkable extent.

Nothing could be further from the truth—each disease must be studied separately—very few bear any direct relationship to sanitary conditions—thus, typhus fever is spread by the louse and is not otherwise infectious; malaria is not infectious but transmitted by a gnat, and only by one species; yellow fever by another distinct species of gnat; bubonic plague (a disease normally of the rat) is spread by the rat flea; while scarlet fever, diphtheria, smallpox are spread from the infected

* Parasite (Greek)—one who eats at another's expense at table, or an uninvited guest.

† See also Dr. J. F. Payne's " Specific Diseases considered with reference to the Laws of Parasitism," St. Thomas's Hospital, Rep. 1892, XX. 59.

persons by more or less direct "contact infection." None of these diseases live happily outside their animal host, even typhoid fever will not survive for long in a drain, but is soon killed out by the hardier putrefactive etc., organisms, and the idea of diphtheria (a most delicate organism) living in a drain is hopeless.

The bacteria or fission-fungi (micro-organisms, germs) exist everywhere, but most of them are quite harmless or even beneficent, it is only very few that have adopted the parasitic habit and that at the same time produce, as they live and grow on their host's tissues, a toxin or poison, just as some plants—the poppy or the *nux vomica* plant—growing on their natural soil, produce poisonous alkaloids (morphia, etc., and strychnine).

The formation of this poison or toxin probably is of service to the microbe in the struggle for existence, its object is protective rather than purposely aggressive.

Beyond septic trouble, there is no occasion to fear that any germ of a communicable fever will arise from ordinary dirt, dead dogs, or decomposing cabbage stalks, unless an infected person has deposited infectious material there; the friendly and useful germs are too busy breaking down the organic materials to serve as manure and thus carry on the rotation of animal and plant life, and the offensive smell is practically an assurance of safety. The infected person is the real danger and one must usually get fairly close to him to acquire his infection, but the hand carelessly used, and saliva-spreading-habits are potent sources of infection. Bacteria are *vegetable* or fungus germs, but many diseases (malaria, yellow fever) are due to *animal* microscopical parasites (protozoal) which possess a complicated life history, with asexual and sexual phases, usually passed in distinct animals; and which thus call for measures of prevention in accordance with the life history of the causal organism.

There is no reason to suppose that disease germs are primarily such, the combination caused by their assumption of the parasitic habit and their power of producing poisons as the result of their growth, is probably an unfortunate accident.

New diseases may from time to time be evolved, and we know that diseases vary their virulence and infectivity under conditions not fully understood; but if any new disease is evolved, the infective agent is more likely to be some organism which has adapted itself to life in various parts of the air passages or food canals of the body, than to any bacteria living in ordinary filth.

So far as our experience goes, the truth remains that an infectious case is derived directly or indirectly from a previous infectious case. *Omne vivum ex ovo.*

* "We must suppose that at some period in the earth's history, when conditions were favourable and perhaps very different from those of the present time, living protoplasm

* Living Organisms—Prof. Goodrich, Oxford-Clarendon Press.

made a first appearance. Possibly these conditions will never be repeated, either in nature or in the laboratory, and the first stages in the evolution of life may never be discovered. The temperature, moisture and pressure and other conditions must have been such as to allow of the formation of high compounds of various kinds. Many of these would be quite unstable, breaking down almost as soon as formed; others would be stable, and merely persist and accumulate. Still others might, possibly with the help of some catalytic substance, tend to re-form as fast as they broke down. Once started on this track such a self-repairing compound or mixture would inevitably tend to perpetuate itself, and might combine with, or "feed on" other compounds less complex than itself, as was long ago suggested by Lankester. The principle of the survival of the fittest applies with all its force to such initial steps in the evolution of life. The more completely self-regulating mixtures would outlast the others. And so we may imagine did the nicely balanced mixture of anabolic and catabolic proteins finally become elaborated into protoplasm. Innumerable compounds must, of course, have failed to establish themselves in this way owing to too great fixity or too great instability. For many reasons it seems probable that life originated in the sea; protoplasm contains the same salts of calcium sodium and potassium as sea-water and in much the same proportion."

The Cripple or Physically Defective Child.

The inclusion of education interests, hitherto independently administered, in the health department, gives opportunity to consider outstanding administrative needs. The question of immediate urgency is the care of the cripple (physically defective) child. While power to educate was conferred in 1899, the duty of making provision, institutional or otherwise, for dealing with them was not placed upon educational authorities until the Act of 1918, which came into operation in April, 1920.

Orthopaedic surgery, stimulated by war experience, now includes not only operative measures, but a revolutionised code for re-education of function, etc., in impaired or paralysed limbs, which has proved of remarkable value.

It has been estimated that between half and one per cent. of the children of school age in England and Wales require treatment and education as cripples. The number of crippled children at school ages in Bristol has been estimated at 495.

During the year 1924 arrangements were made whereby children found by the maternity and child welfare staff to be suffering from various kinds of eye trouble or crippling diseases, such as rickets, infantile paralysis, etc., are referred to the school clinics for appropriate treatment. During 1926, 39 cases of impaired vision and 37 of crippling disease were referred in this way.

The benefit to the child concerned is of great value, and mothers are pleased to avail themselves of the facilities for treatment thus afforded.

The Causation of Crippling.

The chief causes of crippling in children may be grouped thus :—

1. Disease of bones or joints, generally <i>tuberculous</i> in origin	... ...	) years. common age of onset, 1-8
2. All forms of paralysis, especially <i>infantile paralysis</i>	... ...	, , , , 1-3
3. Heart disease, <i>Rheumatic Carditis</i> , Chorea	... ... ...	) , , , , 4-10
4. Certain congenital defects, Talipes, Scoliosis, <i>Rickets</i> , and accidents	... ...	) , , , , 1-2

The London figures show that of 898 physically defective children, 160 were crippled by paralysis, 212 by tubercle, 92 by congenital or other deformity, 339 by heart disease, and 95 by other causes.

Schemes for Treatment of Cripple Children.

A scheme to be effective should include (1) early recognition, (2) orthopaedic treatment in hospital, with educational facilities, (3) following up in the homes, and (4) supervision of cases at out-patient clinics. Existing schemes are for the most part organised and administered under voluntary committees with official representation, local authorities participating in the scheme on a contributory basis.

It must be borne in mind that the cure in many cases is necessarily prolonged—thus in various surgical forms of tuberculous disease in the Leasowe Hospital the stay averaged from 227 days to 687, but 74% of the cases were discharged with an arrest of the disease—a highly satisfactory result. In other diseases, the stay may not be more than two or three weeks for a simple tenotomy to six months for a case of infantile paralysis. The length of stay is much lessened by early recognition.

Crippling.

All cases of crippling due to tuberculosis come within the sanatorium scheme of the Health Committee, who contemplate developing their Frenchay Park Sanatorium into a complete orthopaedic hospital which will avoid the present inconvenience of sending cases to distant hospitals. The Council has already authorised provision of this sort. The Health Committee is also interested, under their child welfare scheme, in children under school ages suffering from various forms of paralysis. *It must not be forgotten, however, that about a third of the cases requiring institutional treatment and prolonged rest will be found amongst children of school age suffering from heart disease, generally the result of rheumatism.* It is of the first importance that these should be well provided for, and they cannot be included in the tuberculosis scheme. The Board of Education definitely insist that an orthopaedic hospital should be under open air conditions in a country district, and have recently refused to recognise the city hospitals for this purpose,

so the only way to escape the reproach of having to send Bristol children to a hospital near Bath is to provide one for Bristol itself.

Table I.

Rheumatism.

Year	No. of Deaths at ages 0-15 from Rheumatism.	All causes	% of Rheumatic Deaths to Deaths from all causes.	Rheumatic Deaths (all ages)
1917	5	298	1.68%	12
1918	6	635	.94%	13
1919	3	352	.85%	15
1920	6	320	1.88%	23
1921	7	275	2.55%	19
1922	4	337	1.18%	17
1923	7	264	2.69%	24
1924	11	288	3.82%	26
1925	6	425	1.41%	15
1926	6	187	3.21%	30

In July, 1926, the British Medical Association Report on rheumatic heart disease in children, making a strong appeal for the organised after-care of rheumatic children in Great Britain, was published. The report recognised the etiological importance of damp buildings, the beneficial effect of tonsillectomy, and the need for institutional treatment in every large city. The Medical Research Council has just issued a further Report concerned with child life investigations on "Social Conditions and Acute Rheumatism." Data, with controls, were obtained from the medical and social histories of 721 rheumatic families, and of 200 similarly circumstanced non-rheumatic families in two London and one Scottish hospital, and a further analysis was made of the histories of 1,872 children resident in Poor Law Institutions. The following conclusions were arrived at :

1. The incidence of rheumatism is greater on the hospital group of children than on well-to-do children as seen in private practice—in the ratio of 13 per cent. to 0.7 per cent.
2. This incidence amongst the hospital class is not in direct relation to the degree of poverty, for if the hospital patients are divided into three grades according to their financial position the poorest of the three shows a lower incidence of rheumatism than the other two.
3. Degree of maternal care rather than degree of poverty is a conceivable factor.
4. Rheumatism appears to attack several members of one generation rather than to be transmitted by heredity.
5. In relation to the colour of hair and eyes—rheumatism appears to attack the dark types in preference, a result exactly the opposite of Dr. Shrubsall's results in 1903.

6. The data do not justify any definite pronouncement of contagion, though the comparative immunity of children resident in poor law institutions may bear on this point, in regard to sharing beds with rheumatic patients at home.
7. The tonsils are apparently healthy in 25 per cent. of rheumatic children, and out of 295 rheumatic children whose tonsils had been surgically treated, 43.7 per cent. had their first rheumatic attack subsequently.
8. This investigation lends little support to the view so generally entertained that dampness of the dwelling house plays an important part in the production of acute rheumatism.

The general result of the enquiry may be disappointing in that little or no indication is afforded as to the means of prevention, and it has been suggested that the disease might be made notifiable. At any rate it is certain that many children (some have claimed 50%) are left with damaged hearts after an attack of rheumatism, and there is urgent need of adequate institutional provision to ensure for these the prolonged rest essential to cure.

References :

- 1.—Reports on Public Health and Medical Subjects, No. 23.
- 2.—Child Life Investigations : Social conditions and Acute Rheumatism
Special Report Series No. 114, Medical Research Council. H.M.
Stationery Office, 2/6.

Small-pox in the North.*

Small-pox having failed in recent times to make itself felt as a fatal disease is now clogging the machinery of local government by its mere abundance. In the last Weekly Return there were 353 cases, all except 17 notified from counties north of the Dee and Humber, and 288 of them from the small county of Durham. Middlesbrough was the first scene of this northern outbreak ; it was introduced there by a visitor in 1920, and up to the middle of 1925, when it rapidly diminished, about 1,800 cases had been reported, all of conspicuously mild type. In the previous Middlesbrough epidemic of 1897-98, Dr. Charles Dingle, Medical Officer of Health, had to report a third fewer cases, but attended with 166 deaths, and the outbreak was only with difficulty got under control. In the recent epidemic, Dr. Dingle strove manfully to stem the tide, but receiving little or no support from his sanitary authority, he regarded it as hopeless to obtain immunity by vaccination, and accepted the second-best plan of letting the population obtain immunity by contracting the disease in this mild form. Only an occasional case is now appearing in this town of 136,000 inhabitants.

The next serious outbreak was in Ashington, mid-Northumberland, where 500 cases occurred in two years in a colliery population of about 30,000. Here the sanitary authority,

* "Lancet," 4th Dec., 1926, p. 1175.

having no small-pox hospital, fell back on the isolation hospital, described by Sir George Newman as not at all suitable for the purpose. Friends and relations were permitted to visit patients at this hospital without proper precaution against the spread of infection, with the result that much inconvenience and loss of wages occurred locally, and infection spread to other areas. The part-time M.O.H. was not in a position to meet such a public health crisis in an intensely anti-vaccinist population, with a sanitary authority which strenuously opposed any efforts to get contacts vaccinated. Finally, notified cases seem to have been left at home with little or no supervision. The position at Ashington has since changed for the better with the appointment of a new medical officer, still a part-timer. The next outbreak occurred at Newburn, a colliery and iron-working district on the extreme western boundary of Newcastle, and gave an anxious time to the medical staff of that county borough. Here the outbreak was regarded, not as small-pox, but as a mild inoffensive disease, probably chicken-pox, and in the great majority of cases notified as small-pox no action of any kind was taken. Most of the cases of small-pox that occurred in Newcastle were traced directly to infection from Newburn, but each of the numerous outbreaks in the City remained restricted to one or two cases at most, showing how readily the disease is controlled when handled efficiently. During the past summer the disease crossed the Tyne, and outbreaks began to appear in the county of Durham, where the County Medical Officer took a very active part in assisting and advising the district medical officers. Unlike Northumberland, Durham is a very densely populated county, and the result of mismanagement would be seen in thousands rather than hundreds of cases. Three members of Dr. Eustace Hill's health committee, who criticised his drastic action at one meeting, were absent from the next, being themselves confined to hospital with small-pox. It is noteworthy that in none of the towns on Tyneside has the disease got any real hold, because it has been grappled with from the start.

In Gateshead a considerable number of the cases were discovered by the Medical Officer of Health in a very thorough house-to-house investigation of some streets from which one or two cases had been reported. In Newcastle, where the cases have never exceeded an occasional one, two, or three a week, the population is relatively well vaccinated, this measure having been pushed quietly and unostentatiously during the past year or two. Infantile vaccination in Newcastle approaches 70 per cent. But Newcastle has stood by its neighbours, and at the present moment is housing 30 or 40 cases from the Brandon district of Durham, where existing accommodation is overtaxed, and cases have been sent to Sealburn, Blacksell, and Shincliff, and even to Middlesbrough, while the suitability of Brancepeth Castle as a temporary hospital is being canvassed. In spite of all this costly inconvenience the vaccination centres are only sparsely visited. Contrast with this the extraordinary freedom of London from small-pox. At a recent meeting of the County Council,

Mr. G. H. Walmsley, chairman of the Public Health Committee, said that during the years 1923-25 there had been 25 cases of small-pox reported in London, as compared with 11,630 in the rest of England and Wales. This he justly ascribed to the energetic action of public authorities in London in following up and vaccinating contacts, combined with the facilities for prompt diagnosis provided by the Council, and the close co-operation between all the medical officers concerned.

Similar conditions in America have been thus described *:— “Outbreaks of small-pox occur of all grades of severity, some with a mortality of 70% among those attacked, and some with a mortality of 0.01%. Since 1896 a mild form has been increasingly prevalent having a fatality of about 0.1% among the unvaccinated. The strains of the disease present just previously had been much more severe, and from time to time outbreaks are now occurring with a fatality rate of about 30 % in the unvaccinated. Each of these strains in general breeds true to its respective type, and mild cases contracted from a severe type give rise in turn to severe and fatal cases. There is no definite grade of severity or of fatality that we can consider characteristic of small-pox, and it is probable that almost all of the epidemics called “alastrim” etc., have been mild forms of small-pox. All forms of small-pox immunise against each other and all may be prevented by the same vaccination. Exposure to a severe form is much more likely to give rise to infection than exposure to a mild form, and it takes a higher grade of vaccinal immunity (more recent vaccination) to protect against a severe strain than against a mild strain.”

In moderately well-vaccinated communities, such as Germany, epidemics of mild type are entirely prevented, and outbreaks of severe type much diminished. On the other hand, in poorly vaccinated communities, where isolation is nevertheless practised, such as England and the greater part of the United States, mild strains spread more diffusely than severe because they are not taken so seriously by those attacked nor by the public at large, and because the attack is not severe enough to keep the patient in bed and isolated. Epidemics cannot be stopped by isolation without vaccination.”

Restrictive methods in Bristol have proved remarkably successful. Apart from one “port” introduction in 1924—from which no extension followed—there has been no introduction into the City since December, 1920, when the outbreak was limited to 7 cases,

The close co-operation which exists between local practitioners and the department has, however, resulted in 108 suspected cases being visited by your medical officers since January, 1921, for diagnostic purposes.

During the past 43 years there have been 102 introductions of small-pox into the city (23 of these through the port) from which 1,243 known cases resulted and 127 deaths occurred

* Surgeon J. P. Leake, U.S. Public Health Service, Ref. Pub. Health Repts., vol. XIII., No. 4, Jan. 29th, 1927 (“Lancet” March 26th 1927, p. 671).

(mortality 10.2%). This gives an average of 12 cases per introduction over the whole period.

Diphtheria.

The "Schick" Reaction—Protection by Toxoid-Antitoxin.

The main importance of the Southmead outbreak (1921), is that it gave opportunity for acquiring a practical acquaintance with a procedure which, in the hands of observers in America, where diphtheria appears to be far more in evidence than in England, has proved highly satisfactory in protecting threatened groups or communities against this disease.

In order to ensure the adequate protection of the population, the New York system provides a medical service for carrying out the testing and immunising, especially amongst the school population.

Briefly the procedure in a school or institution is this :—

1. All inmates are first of all *tested* (Schick reaction); this test shows which are susceptible or likely to take the disease, and which are insusceptible. This is determined in the course of a few days.
2. All susceptibles are then *protected* by the proper administration of the protective agent—reinforced on two occasions at weekly intervals, when an active immunity is developed which is found to persist over at least three and a half years.

The necessity for immunising the City hospital staff was emphasised by the fact that within three months four members of the nursing staff at Ham Green contracted diphtheria, while six members of the Novers Hill staff also suffered, though no diphtheria was knowingly admitted to the wards. In 1920, no less than 12 members of the staff at Ham Green contracted diphtheria, one of whom died of a virulent attack; and in 1921, 11 further cases occurred.

The Health Committee, recognising the very great risk run by unprotected nurses in dealing with the severe type of diphtheria prevalent in recent years, decided in 1922 to afford protection to their staff, so that they might enjoy a similar immunity in regard to diphtheria to that which they have for many years experienced in regard to small-pox.

Setting aside for the moment the gain in escaping weeks of sickness, the economic value to the City is appreciable. Thus 329 working days have been saved.

Dr. Peters, the Resident Medical Officer at Ham Green Hospital, informs me that :

"To-date, 449 staff have been dealt with and 308 have received a course of injections.

The incidence of the disease amongst new entrants to the service (about 60 per annum) for the two years previous to these methods being used, was 11 and 12, i.e., nearly 20 per cent., one case being fatal.

We began these methods in 1922. During each of the years 1922 and 1923, six were attacked (*i.e.* 10 per cent.), chiefly before the course of injections was completed.

In 1924-25-26, three in all were attacked, a reduction from 20 per cent. to 1.5 per cent. amongst the new entrants (205). These three were the only persons attacked who have had a full course of toxoid antitoxin injections. To make perfectly secure, they should be re-tested three months after the immunising course is completed, to see if they have definitely become immune. As our results have been so good, we have not so far done this.

Two of these three were very mild attacks and recovered rapidly without antitoxin. One had rather a severe attack.

Therefore, out of 308 injected, even without retesting, only one person has contracted an attack which might have been dangerous. Our strikingly good results in the last three years compared with the less striking results of the two former years is accounted for by the fact that all new entrants receive a full course of injections a month before coming in contact with diphtheria, without a preliminary test.

The material now used for preventive inoculation (toxoid antitoxin) is free from danger and produces such mild effects that no person inoculated has been incapacitated from duty."

Table II. Schick Methods.

Year	Tested	Un- tested	Immunised			Total attacks of diphtheria	
			Doses			Loss of service (days)	No. of cases admitted
			2	3	4		
1922	175	—	19	29	—	6	264
1923	37	25	23	25	—	6	233
1924	—	59	—	—	59	0	862
1925	—	76	—	—	76	2	110
1926	—	70	—	—	70	1	27
							1,045
							658

I have taken this opportunity of pointing out the constant sickness and regrettable mortality caused year by year by diphtheria in the City in the hope of stimulating a demand for effective preventive measures. Until recently this prevalence appeared to be unavoidable and endeavour was devoted to limit the spread from known cases, with none too favourable success. One or two school outbreaks have caused serious loss of school time as well as danger to the attacked, and even hospital staffs have fallen sick and caused added pressure on the few available beds. The remarkable results recorded

by Dr. Peters amongst the Ham Green staff prove that our original guarded scepticism was unjustified, and now that the disease is definitely preventable it is unwise to persist in the old way and to fill hospital beds unnecessarily. Just as we have protected our own nurses so every school and every institution ought to insist upon the protection of its scholars against diphtheria. The protection of communities undertaken on a large scale in America has only been adopted in isolated instances in England. In Scotland, however, during 1924 the first serious attempt in this country to protect all the school children against diphtheria was made by Drs. Robertson and Benson in Edinburgh. The work is reported at length in the *Lancet*,* but, briefly, it may be noted that parental consent was obtained for the testing and protection of 43.3% of the children on a first application, and at a later visit to a school, consent was obtained to immunise 50% of the remainder, this shows that the parents were satisfied that the children protected on the first occasion had not suffered in any way from the process.

Scarlet Fever—The Dick Test.

Dr. Peters also reports on a similar test and method of protection against scarlet fever, the use of which was commenced during the past year :—

“ It is too soon as yet to express a personal opinion on their value, but up to the present no person inoculated has suffered from scarlet fever and the results are very encouraging.

This disease has caused a considerable morbidity amongst the staff, the number of cases from 1922 onwards having been for each year 17, 4, 4, 7, 2. It is hoped that by means of the Dick Method this disease may also be eliminated from the staff.”

Mites in Furniture.

Certain mites known as *glycyphagus domesticus* are found in Algerian Fibre which is imported for upholstery purposes and as these breed rapidly, carpets, walls, floors, etc., quickly become covered with a fine dust-like coating of the insects. This condition is extraordinarily difficult to eradicate because the insect in its development appears to develop a cystic stage which is very resistant. Several cases have occurred in Bristol which have been fully reported to the Health Committee and the Ministry of Health in response to an appeal from the health department has instituted an enquiry as to the best methods to minimise the trouble. Although the insect does not appear to be directly connected with the actual transference of disease, it is the source of considerable mental trouble and is thus distinctly injurious to health. It appears that dyed fibre may be safely used as the process of dyeing appears to destroy the mite. It has been decided by the Ministry of Health that this question is not a health matter.

* “ *The Lancet*,” November 8th, 1924—p. 949. Diphtheria prevention Robertson and Benson.

The Trustees of the British Museum have published* an interesting account of the habits and life history of this troublesome insect, with magnified drawings of its nymphal and cystic stages.

The pamphlet states that the mite, which does not damage textile fabrics and is harmless to human beings, usually makes its appearance after the arrival of new or newly upholstered furniture and frequently occurs in small numbers in pantries and larders without spreading to other parts of the house. Damp houses and rooms left without fires for a long time may be infested, as the mites are greatly encouraged by dampness.

Remedial and preventive measures indicated include the removal of all Algerian fibre stuffing, heating of rooms affected, and, in order to kill off the mites as they emerge from the eggs and cell-like stage, thorough sulphur fumigation at intervals of a few days.

The pamphlet emphasises that the best way to avoid furniture mites is to refrain from buying furniture stuffed with Algerian fibre.

Flues for Geysers.

In my Annual Report for 1923, I dealt at some length with the danger of fixing geysers without proper flues to carry away the products of combustion, which had already caused five deaths in little over a year ; and I reprinted the Gas Company's excellent memorandum of warning.

In the Bristol Corporation Act, 1926, Section 86, the following powers were granted :—

- (1) Section 157 of the Public Health Act, 1875, extended so as to enable the Corporation to make by-laws with respect to the following matters (namely) :
 - (k) For requiring notice to be given of the erection or formation of bath rooms or the fixing of geysers or other hot water apparatus in connection with bath rooms and for securing that proper ventilation shall be provided for such apparatus and for any such apparatus fixed before the passing of this Act or the making thereunder of any by-law relating to such matters,

and by-laws have been drawn up by the Corporation under these powers.

There appears to be a prevalent idea that because a Bunsen burner ensures more perfect combustion of the gas, the flue is not necessary and I understand that some makers issue this recommendation.

The production of carbon monoxide seems to depend on imperfect combustion of the gas owing to its being chilled by

* For full details see : Economic Leaflet, No. 2, Price one penny (by post 1½d.), from the Natural History Museum, Cromwell Road, London, S.W.7.

apposition with a bulk of cold water. Of course, the combustion is more perfect if a Bunsen flame is used, but on examining seven fatal cases which have occurred in Bristol, I find that in four of them Batwing burners were in use and in the other three Bunsen burners. There would appear, therefore, to be little to choose in the way of safety and the obvious rule is to fix a flue in every case and to take care that it is so fixed as to give free vent to the fumes.

Diagram 1, prepared by the City Engineer in conjunction with the Secretary of the Bristol Gas Co., illustrates the correct methods of geyser ventilation.

Cancer Investigation.

Cancer is one of the most fatal diseases of the present day. In England and Wales it is responsible for over 50,000 deaths per annum, or one death in every nine. In Bristol it caused 474 deaths in 1926. The disease is one of special gravity in that it claims the majority of its victims while at the prime of their life and responsibility, and its course is usually a long and painful one.

Intensive research in regard to the causation of cancer is now being carried out in pathological laboratories throughout the world. On the other hand the disease and its treatment as seen in the actual course of surgical practice has been less systematically investigated. Such an investigation involves the careful study of a number of patients over a long period of time. Without this, it is not possible to say what types of cases, or what forms of treatment, attain to the best results.

The Ministry of Health have asked the Bristol health department to obtain information in regard to all cancer cases coming to the Bristol hospitals and to keep these patients under observation over a period of years. For this purpose, all details, social, clinical and pathological, must be recorded and the patients must be re-examined from time to time after discharge from hospital. The results should be most valuable from the point of view of investigating the causation and treatment of this grave and increasing menace of modern society.

A grant of £40 per annum has been made by the Health Committee towards defraying expenses. We are indebted to the surgical staffs of the Bristol Royal Infirmary and the Bristol General Hospital for their whole-hearted co-operation, and especially to Mr. A. G. Kemm, F.R.C.S., Surgical Registrar of the Bristol Royal Infirmary, and Mr. J. J. Robb, F.R.C.S. (Ed.) Surgical Registrar of the Bristol General Hospital for their valuable help.

Arsenic on Apples.

Some alarm was created in the public mind during the year in regard to the presence of arsenic on apples imported from the United States.

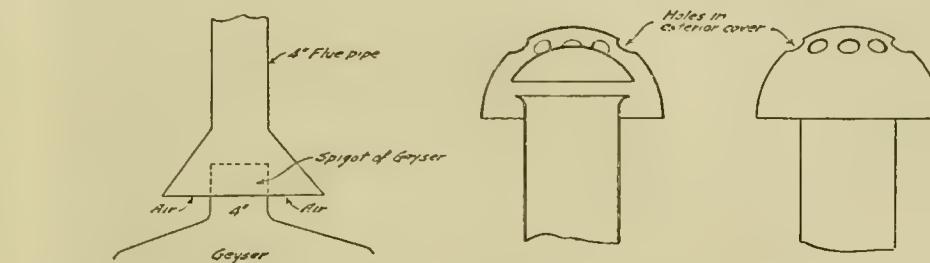
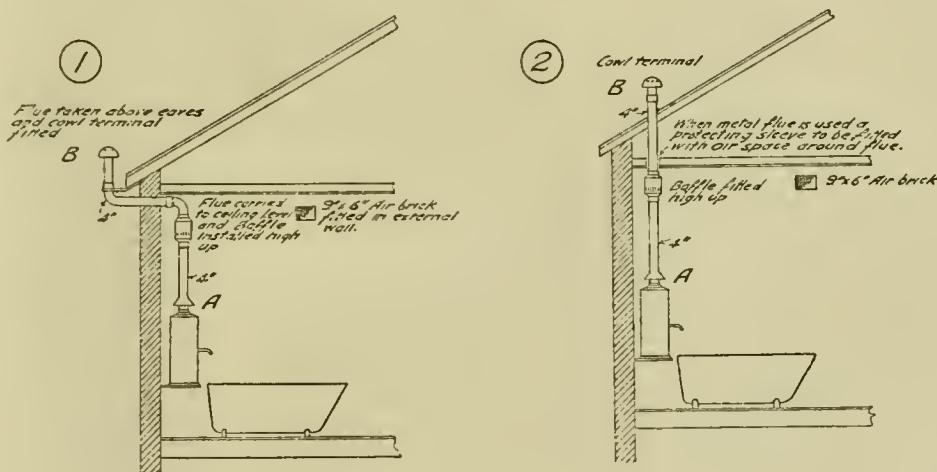
The problem is not a new one, and it is considered that the unusual amounts found on such apples during 1926 was due to the fact that the previous season was a very dry one in

Diagram 1.

CORPORATION OF BRISTOL
— SKETCHES ILLUSTRATING —
CORRECT METHODS OF GEYSER VENTILATION

IT IS VERY IMPORTANT TO NOTE THAT

- ① THE FLUE PIPE SHOULD BE NOT LESS THAN THE DIAMETER OF THE GEYSER SPIGOT THE WHOLE LENGTH FROM GEYSER TO COWL. THE DIMINISHING OF THE DIAMETER IS BAD AND WILL NOT BE SANCTIONED.
- ② THE CORRECT POSITION FOR THE BAFFLE IS NEAR THE CEILING, NOT JUST ABOVE THE GEYSER.
- ③ THE GEYSER SPIGOT SHOULD BE CARRIED INTO AN OPEN TRUMPET MOUTHED END TO THE FLUE PIPE. THE SPIGOT END MUST BE CARRIED UP INTO THIS AS SKETCHED.
- ④ WHERE A COWL IS FITTED AS IN SKETCH ③ THE COWL MUST BE KEPT CLEAR OF THE WALL.
- ⑤ THE BAFFLE MUST BE AN EFFICIENT ONE: MANY ON THE MARKET ARE NOT EFFICIENT.
- ⑥ THE PATTERN OF THE COWL IS IMPORTANT. IT SHOULD ITSELF BE OF A BAFFLE TYPE: A CONE JUST OVER THE END OF THE FLUE PIPE IS INSUFFICIENT.
- ⑦ THE DISCHARGE TO AN AIR BRICK IN AN EXTERNAL WALL IS BAD AND SHOULD NOT BE PERMITTED.
- ⑧ A 6" x 6" AIR BRICK TO BE PLACED IN THE EXTERNAL WALL OF THE BATHROOM: THERE SHOULD NOT BE A VENTILATOR IN THE CEILING; THIS UPSETS AIR CURRENTS.
- ⑨ EVERY BATHROOM SHOULD HAVE A WINDOW OF NOT LESS SUPERFICIAL AREA THAN 4 FEET EXCLUSIVE OF FRAME, OPENING DIRECTLY INTO EXTERNAL AIR.

DETAIL SKETCH AT AA GOOD TYPE OF COWL AS AT B.

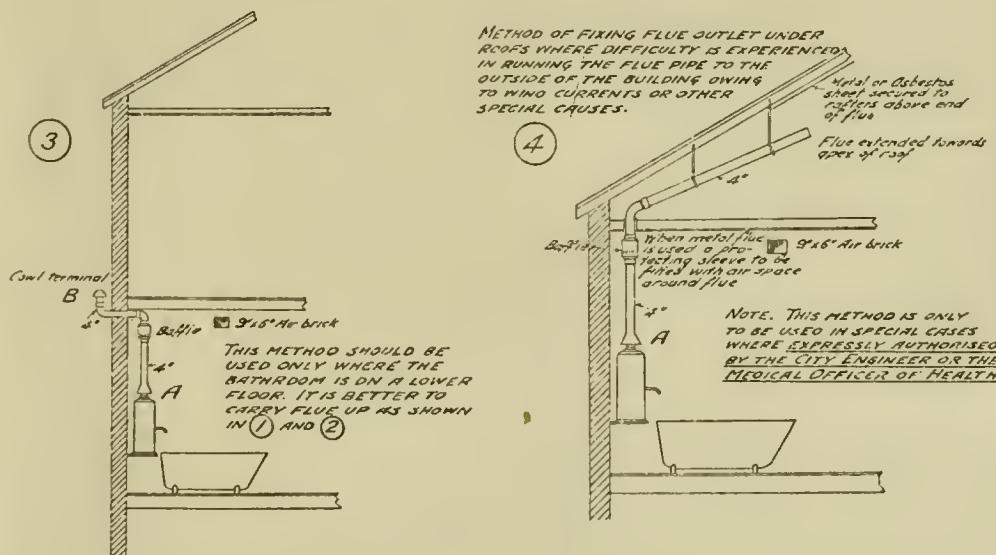
Detailed S. S. Leathem, Esq.

CITY ENGINEER AND SURVEYOR.

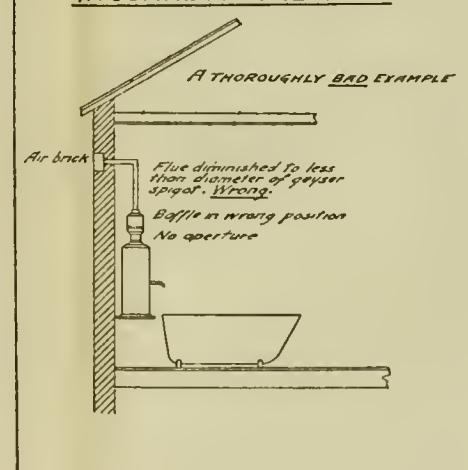
S. J. Davis
M.D.

MEDICAL OFFICER OF HEALTH.

Bristol Gas Company
J. G. Halliwell
SECRETARY AND COMMERCIAL MANAGER.



INCORRECT METHOD



CITY ENGINEER'S OFFICE,
BRISTOL

America. The Codling Moth (*Carpocapsa Pomonella*) is a world-wide pest whose larvae have a preference for the pips of apples, and against whose ravages a spray of lead arsenate has been found to be the most effective remedy. Normally this substance is largely removed from the apples by rain, but in dry areas an excessive residue may remain, which is found in the form of a bluish-green deposit at the calyx and stem, the remainder of the skin usually being free. The accepted limit of safety of arsenious oxide (As_2O_3) in food stuffs is generally held to be .00014%, or 1/100 of a grain per pound.

In one or two instances illness in other parts of the country was blamed to this cause. Three cases of gastro-intestinal disturbance in Bristol were reported to the Medical Officer of Health, but the amount of arsenic found on analysis of the apples was so small that an enormous quantity (as much as eight pounds) of apples would need to have been eaten in order to obtain an amount of arsenic equivalent to a single medicinal dose of 1/16 of a grain, and it was considered that the illnesses were due to some other cause.

A careful watch was kept on apples coming from the United States to the Port of Bristol and a large number of analyses were made, which revealed by the Gutzeit test the presence of arsenic in quantities varying from a mere trace, e.g., .000008% to .0007%. In view of this, a notice was issued to the public recommending that apples should be peeled before eating, as the lead arsenate does not penetrate to the pulp or core, but remains on the surface of the apple, from which it cannot be removed by ordinary washing, possibly, it has been suggested, owing to the formation of an organic compound with the skin of the apple.

The Secretary of the Department of Agriculture, Washington, U.S.A., writing on the 4th March, 1927, informs us that the employment of certain dipping methods at the time of harvest has been found to reduce the arsenical residue to a point where it is well below the recognised tolerance, and it is anticipated that fruit exported to Great Britain during the coming season will not bear any objectionable quantities. In view of this and of the careful watch which is being kept at the port, we do not think there is any need for the public to feel concerned in regard to their apple supply. It may be mentioned that the above difficulty has not occurred in connection with apples imported from the British Dominions.

Bristol Corporation Act, 1926.

This Act, which received the Royal Assent on 4th August, 1926, granted the Corporation amongst other matters, power to—

PART VII.—STREETS, BUILDINGS AND DRAINS.

Sec. 86, Make by-laws for

- (e) securing that water closets shall be so constructed and supplied with water that they can be adequately flushed by mechanical means;

- (k) requiring notice of the erection of bathrooms, fixing of geysers, etc., and for securing proper ventilation for such apparatus and for any such apparatus fixed before the passing of this Act.

Sec. 90. Repair defective private drains at a cost not exceeding £30 ; and recover the expenses thereof.

PART VIII.—SANITARY.

Sec. 95. Require the owner or occupier of dwelling houses, warehouses, or shops in the city to provide and maintain in good order portable covered dustbins.

Sec. 96. Inspect premises which are represented by the owner to be habitually kept by the occupier in a filthy condition.

Sec. 97. Require the owner of any chimney of a washhouse or outbuilding emitting smoke gas or vapour in proximity to a dwelling-house to take steps to mitigate the nuisance.

Sec. 98. Cleanse and disinfect buildings, etc., where such cleansing, etc., would tend to prevent or check tuberculosis.

Sec. 99. Require the owner or occupier of premises where an offensive trade is carried on to cease to use such premises.

PART IX.—HUMAN FOOD.

Sec. 100. Require the registration of premises used or proposed to be used for :—

- (a) the preparation or manufacture of potted or preserved meat, fish, sausages, or other food intended for the purposes of sale :—
- (b) the manufacture or sale of ice-cream.

Sec. 101. Institute legal proceedings against the original vendor of unsound food liable to be seized and condemned, and also against the person to whom such condemned food belonged at the time of deposit for sale or of preparation for sale.

Sec. 102. Authorise certain officers to stop and search vehicles which they have reason to believe may contain human food which is diseased, or unfit for the food of man.

Sec. 103. Make and enforce by-laws for preventing meat brought into the city from being used for the food of man, or deposited for sale until after inspection by an officer of the Corporation.

With the consent of the local authority concerned, the Corporation may enter any slaughterhouse situated within 10 miles from the city for the purpose of inspecting any carcase or part thereof intended for sale or consumption in the city.

PART X.—SLAUGHTERHOUSES.

Sec. 104. Acquire by agreement any premises within the city used for the purpose of slaughtering cattle, etc.

After the expiration of 3 years from the passing of the Act, and after the Corporation have provided an adequate

slaughterhouse, no person shall slaughter in the way of trade, any cattle, etc., within the city, except in slaughterhouses provided by the Corporation. Compensation clauses follow.

Sec. 105. Require the owner and occupier of any registered slaughter-house which from its situation or construction is injurious or dangerous to the public health to cease from slaughtering in the way of trade any cattle on such premises.

PART XI.—INFECTIOUS DISEASES.

Sec. 106. Close Sunday schools and exclude children from entertainments with the view of preventing the spread of infectious disease.

Sec. 107. Restrict attendance of children at Sunday schools and places of assembly when infectious disease prevails.

Sec. 108. Require parent or other person responsible for the attendance of a child at school, to give notice of the occurrence of infectious disease to the head-teacher of the school.

Sec. 109. Further powers as to removal of infected persons to hospital.

Hospital Accommodation.

The deficiency in hospital accommodation, and its failure to increase commensurately with the increase in population, has been noted for some years, and in 1914 suitable extensions were authorised by the City Council and approved by the Local Government Board, but were deferred owing to the war. These extensions are now completed and 56 beds with administrative accommodation will be opened in June, 1927.

In the meantime, expenditure in relation to tuberculosis, infant welfare and venereal disease has risen so enormously that progress in other directions is checked, and at the same time a campaign has been started decrying the value of isolation hospitals. Many of the criticisms err in dealing with communicable diseases as a whole, whereas they differ from one another so materially in causation and methods of spread, that the relative value of hospital isolation varies for each form of disease. For example, there can be no question that isolation is imperative for preventing spread of small-pox, while in diphtheria, this end, though also served, is perhaps secondary to the advantage in life-saving of specialised medical service and of necessary operative relief immediately at hand. Scarlet fever has proved disappointing to the ingenuous aspirations of the 'seventies, but isolation in this disease, as in measles coming from overcrowded houses, means not only saving of life but avoidance of the evolution of septic types of disease. Isolation hospitals are erected out of the rates, not to save trouble to householders who have means of isolation at hand, but to protect the public by isolation where this is impossible owing to home conditions. It is the judicious use of a reasonable amount of hospital room, rather than the

indiscriminate use of a superabundance of beds, that is of public health value.

The need for further hospital accommodation has been emphasised on several occasions during the present century, and has caused considerable anxiety and grave difficulty in 1902-3-4, during a concurrent outbreak of scarlet fever and measles, in 1913 with scarlet fever, and again during 1921 and 1922, when, in the absence of Clift House as a reserve, the Sanatorium blocks have had to be pressed into service.

Home Visitation of Infectious Diseases.

The total number of notifiable and non-notifiable infectious diseases visited by the three Home Nurses during the year 1926 was :—

Scarlet Fever	...	...	901
Diphtheria	...	...	699
Erysipelas	...	...	109
Enteric Fever	...	...	15
Cerebro-Spinal Fever	...	...	1
Malaria	...	...	5
Dysentery	...	...	4
Encephalitis Lethargica	...	...	37
Polio Encephalitis	...	...	—
Anterior Poliomyelitis	...	...	9
Whooping Cough	...	...	845
Chicken Pox	...	...	1088
Measles	...	...	350
Mumps	...	...	1032
German Measles	...	...	35
<i>Total Cases</i>			<u>5,130</u>

This total includes primary visits only and does not include many re-visits to home nursed cases to ensure that proper precautions against the spread of infection are being observed. Also certain diseases necessitate several re-visits to the home as the contacts are placed under supervision and spray treatment by the Home Nurses.

When a "first case" of measles is notified from certain infant departments of the Council schools the whole of the class contacts are excluded from attendance from the ninth to the fifteenth day after onset of "first case" and placed under the supervision of the Home Nurse who is responsible for watching and reporting any illness among the contacts during the period of exclusion.

Many abortive visits are paid to cases of infectious disease before the necessary particulars for the information of the Medical Officer of Health can be obtained.

Maternity and Child Welfare.

Excellent as is the work secured under the existing regulations and within the available powers, it has always been present at the back of one's mind that in order to be truly

preventive rather than merely palliative, the question of good parentage ought to be brought within the arena of social politics not only in relation to maternity and child welfare, but also in relation to school work, in regard to which the Professor of Education at St. Andrew's University has wisely remarked "the most important requirement in education is the possession of good parentage." If this is true of education, as it undoubtedly is, it is doubly true in regard to infant welfare. Much spadework in the way of propaganda will be needed before the eugenic idea, so misunderstood and so little popular, comes into practical politics.

With regard to propaganda, the mere arrangement of a course of lectures appears to me to be inadequate and ineffectual, and audiences attending a free show without any present personal interest in the subject will derive little or no benefit beyond exchange of confidences on local gossip; advice proffered in the homes when sickness is present by a tactful and well-trained health visitor or home nurse, or given at the school for mothers where all the interest is centred on babyhood, is fruitful in good results, and it is by extension of this work rather than by the academic multiplication of lectures that the greatest good is to be secured.

School Medical Service.

The number of children attending the Board schools in September, 1897, before the extension of the City was 18,077, and attending other schools was 21,868; or a total of 39,945. In 1898 the City was enlarged, and again in 1904, and by January, 1915, the total on the Education Committee's school registers was 59,863. Since 1905, the Education Committee have excluded children under 5 years of age from certain schools, but in some poor districts children under five are admitted. In 1926, 54,703 children were on the registers of the 93 schools in the City.

The school medical service was provided by the Education Committee under the Education Administrative Provisions Act, 1907, etc., independently of the health service, and has after various tentative arrangements, developed under the whole time medical guidance of Dr. R. A. Askins who was appointed School Medical Officer in 1914, and issues a separate report. In 1924, the school and health work was combined by the appointment of the School Medical Officer as Deputy Medical Officer of Health.

I am, my Lord Mayor, Ladies and Gentlemen,

Your obedient Servant,

D. S. DAVIES, M.D., LL.D., D.P.H., etc.

Medical Officer of Health,

City and Port of Bristol.

NATURAL AND SOCIAL CONDITIONS.

Area (in acres) ...	18,445 acres.
Population (census 1921) ...	376,975 (173,783 males) (203,192 females).
	Persons per acre, 20.5.
Estimated Population (1926),	383,300 for Death rate. 383,600 for Birth rate.

The estimate of population as at 30th June, 1926, is supplied by the Registrar General for use in connection with the vital statistics of 1926. It has been derived from the 1921 Census population (corrected where necessary to give a closer approximation to the resident population of that year as described in the Registrar General's Statistical Review for 1921) after allowance for the births, deaths and migration which occurred between the census date and the 30th June last.

In the absence of definite information regarding migration between localities, the allowance made for this element of the movement is necessarily an approximate one. The method adopted has been applied impartially to all areas of the country and it is believed that for the majority of areas the resulting populations may be accepted as sufficiently accurate for the purposes they are intended to serve.

It is to be observed, however, that the basis of estimation has been modified from time to time in the light of accumulated evidence regarding the effect of the migration factor and in some areas there may accordingly appear to be a lack of continuity between the estimates of successive post-censal years. The figure given above is believed to provide as true a measure of the position in June last as the data permit, but the difference between that figure and the corresponding estimate for 1925 is not necessarily representative of the births, deaths and migration which occurred between the 30th June, 1925 and the 30th June, 1926.

Physical features and general character of the area.

Site and Soil.

Bristol is situated in N. Lat. $51^{\circ} 27' 6.3''$ and W. Long, $2^{\circ} 35' 28.6''$. The old City lies in great part on low ground in a broad valley lined by the alluvial deposit of the Avon, and its tributary the Frome : parts of the City, *e.g.*, High Street and Redcliff, being upon higher ground on the new red sandstone (rias), through which rock the New Cut or artificial course of the Avon has been made, and upon which Bedminster is built.

The high table-land of Clifton, Cotham, and Redland, to the north and west of the City, is situated upon the denuded edges of an anticlinal arch of carboniferous rocks, upon which, in certain limited areas, beds of newer formation (*e.g.*, lias), lie unconformably. On Clifton and Durdham Down the carboniferous limestone is exposed over a large area ; and here the gorge of the Avon, cut by the river as it turns to the north to join the Severn, forms the western boundary of the district.

The steep ascents, extending from Granby Hill on the west, past Brandon Hill to St. Michael's Hill and Marlborough Hill on the east, are on the outcrop of the millstone grit.

Considerable portions of the north-east and east parts of the City lie upon the new red sandstone, while Totterdown, part of Cotham, and the slope towards Ashley are upon beds of lias limestone.

Parks and Open Spaces.

The parks and open spaces available for the recreation of the people comprise in all 1,125 acres, including Clifton and Durdham Downs which have a combined area of 442 acres, Shirehampton Park (99 acres) and Blaise Castle estate (190 acres). Cricket pitches are allowed on Durdham Down and in 5 of the parks, where also bowling greens and tennis courts have been provided. In two parks, lakes have been provided with boats.

Number of inhabited houses (1921)—

Structurally separate dwellings occupied—72,470.
Rooms occupied—408,040.
Rooms per person—1.13.

Number of families or separate occupiers (1921)—

Private families—91,171.
Population in private families—361,578.

Rateable value—

District Rate—£2,179,671.

Sum represented by a penny rate—£8,554.

The amount of Poor Law relief : the extent to which Hospital and other forms of gratuitous medical relief are utilized.

	30th Sept., 1926	31st March, 1927
Weekly cost of outdoor relief ...	£4,122	£4,435
Cases relieved	5,359	5,655
Persons relieved	14,414	15,288

Average weekly number of persons in receipt of medical relief : 97.

Number of inpatients treated in Southmead Hospital during the year ended 31st March, 1927 : 2,876.

Water Supply.

(See Table 12).

A constant supply of water is assured during the year 1927.

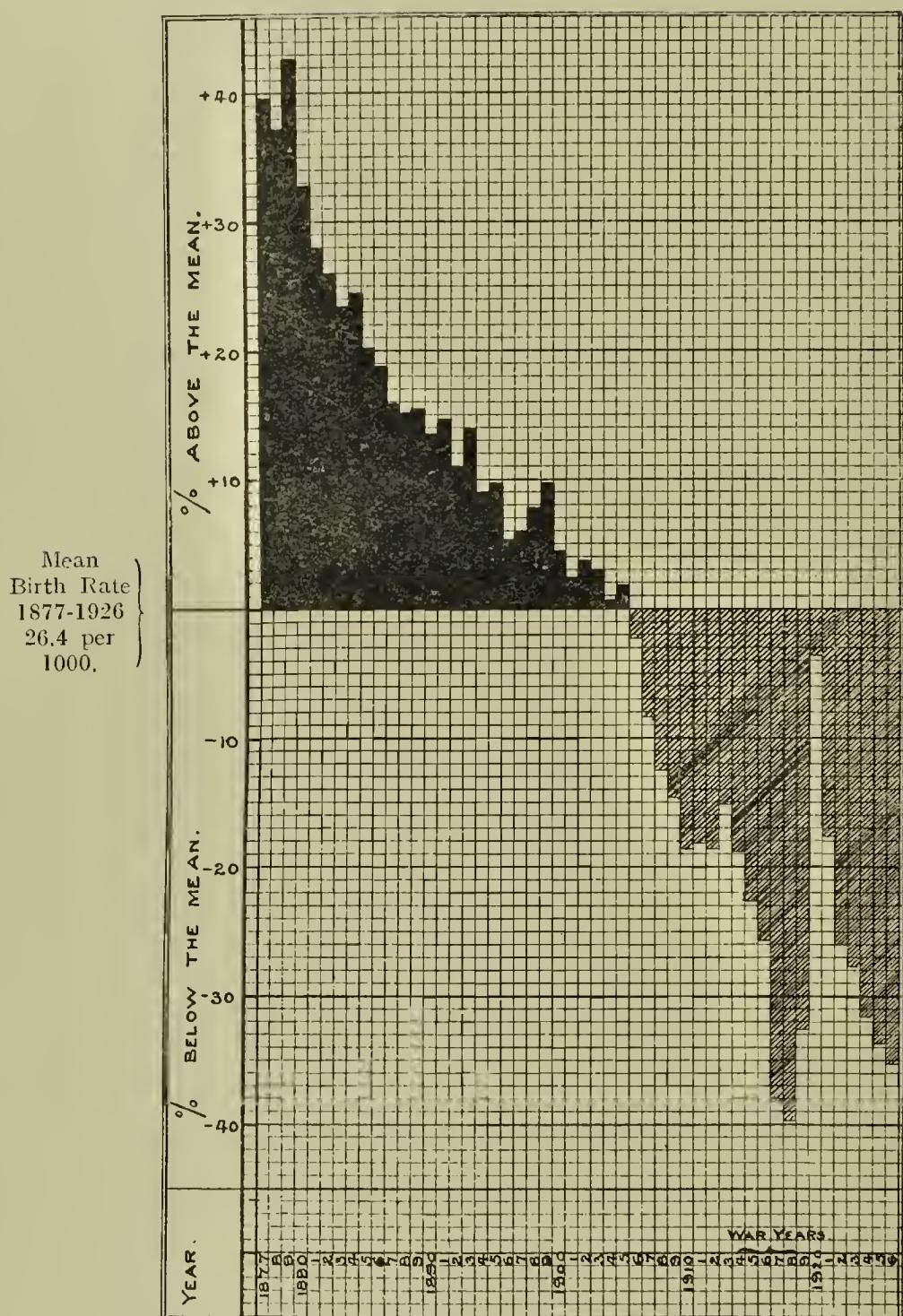
The number of dwelling-houses connected with the Bristol Water Works Company's mains is 82,282 ; this figure refers to houses inside and outside the City boundary.

Practically the whole of the inhabitants of Bristol are supplied by the Company for domestic purposes.

The number of houses supplied for domestic purposes by standpipes is negligible.

Diagram 2.

Births.



The decline in the birth-rate will be noticed as continuous since 1879, and has been below the fifty years mean since 1905. The very lowest point was reached in 1918 at the end of the war, followed by a re-action in 1920 and subsequently by a return to low rates.

The Company's sources of supply consist of :—

Springs in the carboniferous limestone and the conglomerates of the Mendip Hills.

Deep wells in the new red sand stone and marls of the triassic formation at Chelvey.

An impounding reservoir in the Yeo Valley.

To guard against the contamination of the Company's sources of supply extensive drainage and protective works have been constructed at a cost approaching £200,000.

The Company's waters are not liable to have plumbo-solvent action.

During the year 1926, the Company continued to carry out drainage and protective works wherever circumstances arose which would be likely to cause contamination of the sources.

Sewerage, Drainage and Excrement Disposal.

Bristol is completely sewered, cesspools are not countenanced, and no dry systems are in use. The aggregate length of the main sewers is about 150 miles, and the original cost of construction, commenced in 1851, amounted to about £161,000. The sewers take all storm water, which reaches them by way of trapped street gullies; they are without any external openings or special ventilating outlets, and the manholes are all closed down. Double tidal-valves are fixed at their outlet, and in the low level sewers provision has been made for flushing from the Floating Harbour. The outlet valves are of cast-iron, oval or circular, and self-acting, hung on chains, and bedded on india-rubber.

The sewers are so designed and constructed with regard to capacity, fall, and position that they may ultimately be converged to one point, from which an outfall sewer may be continued to a suitable point lower down the river, or into the Bristol Channel. The sewage is discharged without treatment into the tidal Avon, and the rapid scour of the tide, which in this channel is of exceptional force, generally results in the removal of the sewage without offence, although, in remarkably dry summers when fresh water is deficient in the river, some nuisance may be complained of. The meteorological conditions of recent years have not contributed to the existence of nuisance, and there is complete lack of evidence as to any injurious effect. The City Engineer publishes an Annual Report of the work in his department.

VITAL STATISTICS.

Births (see Tables 1, 3, 5).

During the year 1926, 6,643* births were registered, corresponding to an annual rate of 17.32 per 1,000 population, compared with a rate for 1925 of 17.36, for 1924 of 18.67, and for

* Total Births registered in Bristol during 1926—6876.

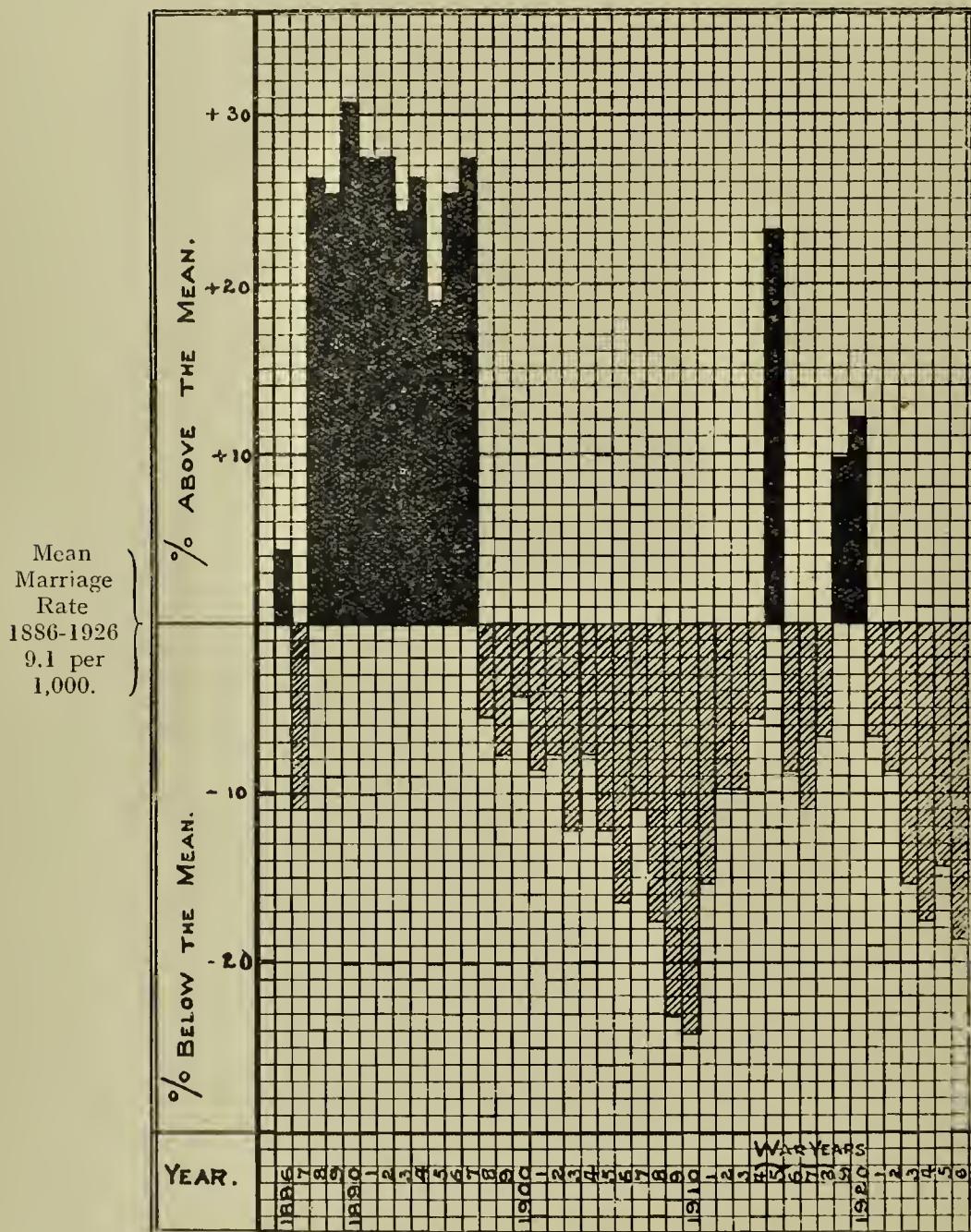
303 Outward Transfers have been deducted, and (see Table 1).

70 Inward " " " added.

Marriages (see Table 5).

2,843 marriages took place within the Borough of Bristol during 1926 compared with 3,015 in the year 1925. The annual marriage rate per 1,000 is thus 7.4 compared with 7.8 in 1925.

Diagram 3.



The period of high marriage rates extending from 1888 to 1897 shows an increasing decline until 1910, and did not fully recover until 1914-5 following the outbreak of war and again in 1920 after the termination of the war. Since then the decline below the mean rate has re-established itself.

1923 of 19.33. The Birth Rates as corrected by the Registrar General are—for 1926, 17.8; for 1925, 17.9, for 1924, 18.4, and for 1923, 19.5. (The rate would be better calculated, not on population, but as a rate per 1,000 women living at child-bearing ages (15-45).

The birth-rate, which for the decade 1880-89, was 31.4, steadily declined year by year to a minimum in 1918 of 16.1. A similar decline during the last 40 years has been noted in most civilised countries.

The causes of decline in the birth-rate in recent years are chiefly four—

- (1) Deliberate birth control.
- (2) Postponement of age of marriage.
- (3) Increasing celibacy due to cost of living and employment difficulty, and, during the war,
- (4) absence of men from country on war service.

The social bearings of high and low birth-rates and infant mortality rates may be summarised thus :—

- (1) A high birth-rate with many surviving children will in time cause industrial overcrowding.
- (2) A high birth-rate with high infant mortality rate is simply deplorable.
- (3) A low birth-rate with few survivors is equally undesirable.
- (4) A low rate with many survivors may possibly mean the solution of many social difficulties.

A vast population, more than a country can support, needs colonial outlet, or means starvation, and this condition in Germany may have been one direct cause of the war. Colonies need sea-control and command of the channel ports. On the other hand, the development of a country may be delayed owing to lowness of birth-rate. A happy mean is desirable.*

Death Rate (see Tables 1, 3, 5, 6).

The recorded death rate for 1926 (uncorrected for age and sex distribution) is 11.44, calculated on a population of 383,300, estimated to mid-year, 1926, compared with 13.34 for 1925, 12.80 for 1924, and 11.72 for 1923.

The adjusted death rate as given by the Registrar-General for 1926 is 11.3, for 1925, 13.2, for 1924, 12.0, and for 1923, 11.2.

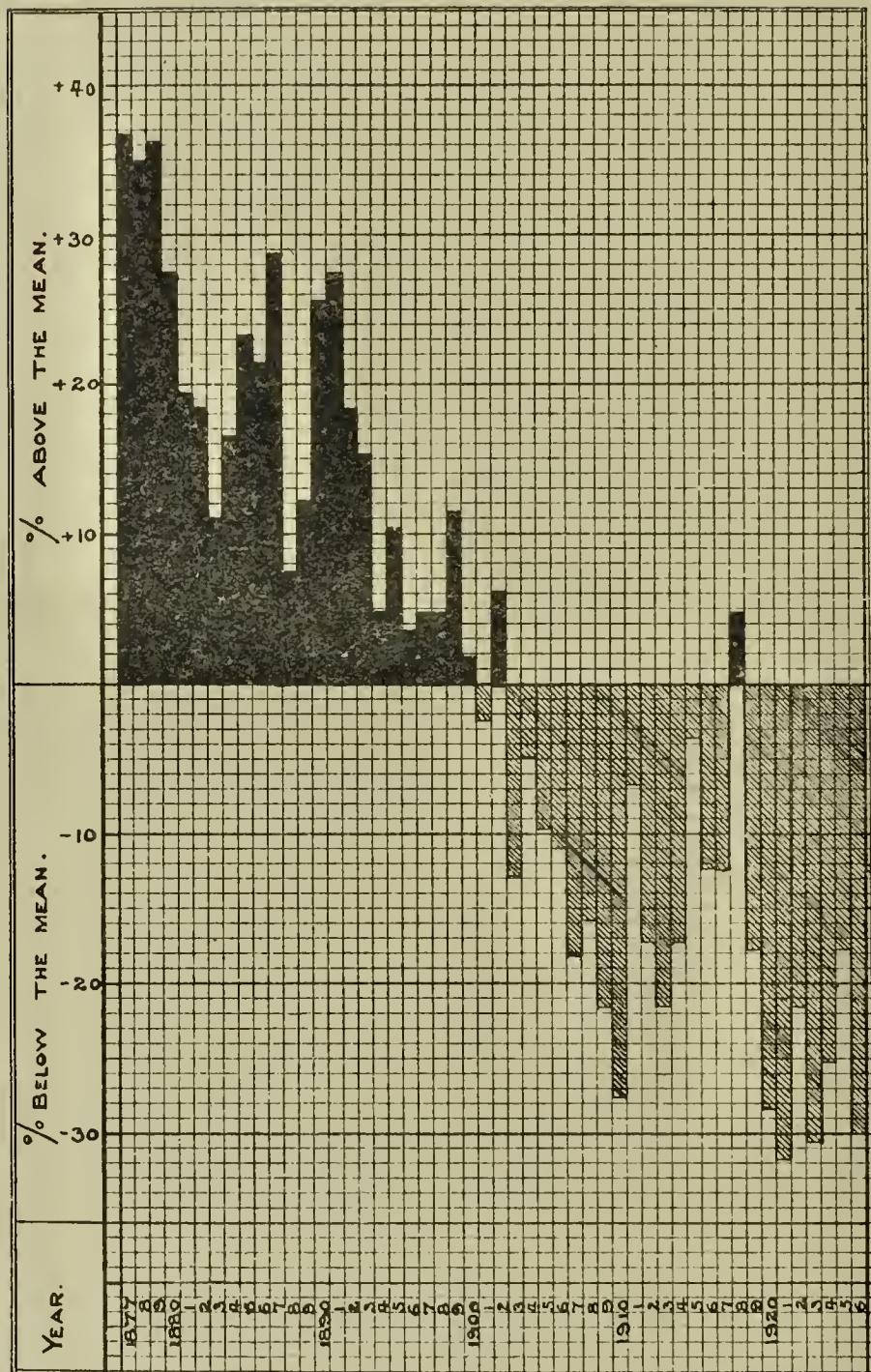
We find that, at the date of Clark's Report, 1850, the average general death rate over a period of 7 years was 27, in the 'seventies averaged about 21, in the 'eighties from 16 to 19, and has fallen steadily to the present time.† The gradual and continuous improvements form an index no doubt of the social betterment in domestic conditions, of the influence of

* Hewlett & Nankivell—Principles of Preventive Medicine, 1912.

† In 1918, Influenza mortality raised the death rate to 17.1

Diagram 4.

Deaths.



The death rate was consistently below the average from 1902 until 1917. In 1918 the serious autumn epidemic of influenza caused a solitary excess above the mean.

the "New Humanity" continued from the eighteenth century and fostered by Lord Shaftesbury and others, in regard especially to conditions of employment, to the provision of the prime necessaries for decent communal existence, unpolluted water and efficient removal of waste matters, supplemented by supervision of things possibly harmful, and, more important, by some supervision of persons, and aided by some rudimentary development of a "sanitary conscience" in the individual.

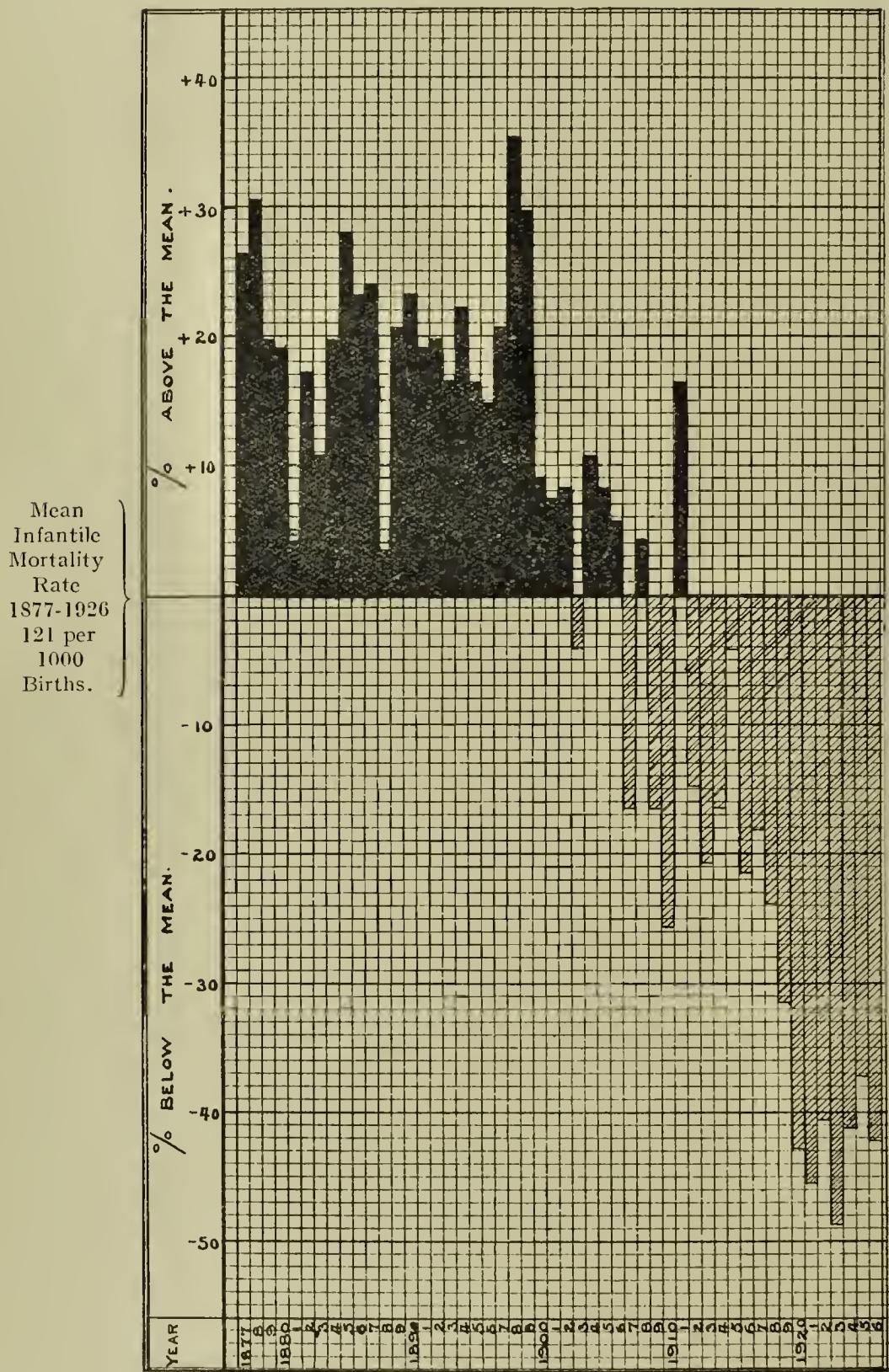
Under these influences general morbidity and mortality would be likely to decline from general diseases, as well as from that small group of intestinal communicable diseases exemplified by cholera and typhoid, which are directly amenable to "sanitary" influence as generally understood. "Sanitary" endeavour alone has probably done most of what it can towards control of disease, it must be maintained, but other more direct means founded on knowledge of the etiology of individual diseases are necessary in addition.

"Pearl* gives an interesting account of the work of Dr. Alexander Graham Bell on longevity. By analyzing statistics in several different ways it was shown that there is a definite and close connection between the average longevity of parents and that of their children. By one table it was demonstrated that where neither parent lived to be eighty, only 5.3 per cent. of the off-spring lived to be eighty; where one parent, but not the other, lived to be eighty, 9.8 per cent. of the offspring lived to be eighty; where both parents lived to be eighty, 20.6 per cent. of the offspring lived to the same great age. Another table showed that the average age of persons whose parents both died under sixty years of age was thirty-two and eight-tenths years, while the average age of persons whose parents both lived to the age of eighty or over, was fifty-two and seven-tenths years. "In other words, it added almost exactly twenty years to the average life of the first group of people to have extremely long-lived parents, instead of parents dying under age sixty. However the matter is taken, a careful selection of one's parents in respect of longevity is the most reliable form of personal life insurance." Pearl has compared these figures with those which might be expected if all that medicine and hygiene know to-day, was put into reasonably effective operation and no one died from any cause that we have reason to believe could be avoided. The total increase in expectation of life to be expected under these circumstances he gives as just under thirteen years. "No more striking demonstration could be found of the over-whelming importance of heredity in determining duration of life. For if all the deaths which reason will justify one in supposing preventable, on the basis of what is now known were preventable in fact, the resulting increase in expectation of life falls seven years short of what might reasonably be expected to follow the selection of only one generation of ancestry (the parental) for longevity."

* "The Degenerative Diseases" by Lewellys F. Barker, M.D., and Thomas P. Sprunt, M.D. Harper & Brothers, London and New York.

Diagram 5.

Infantile Mortality.



The most fatal of the communicable diseases are shown in these figures for the ten years, 1907-1916 and 1917-1926, none of which bear any direct relation to insanitary conditions :—

		1907-1916	1917-1926
		<i>Deaths.</i>	<i>Deaths.</i>
Measles	...	916	701
Whooping Cough	...	767	465
Diphtheria	...	455	578
Scarlet Fever	...	144	109
Smallpox	...	20	1
		2,302	1,854

which averages 230 a year for the first period 1907-1916 and 185 for the period 1917-1926.

The efficient safeguards are hospital accommodation, an adequate medical staff for enquiry into home, school or institution infectious sickness before the development of an epidemic, and time and opportunity for continuous pathological investigation and research.

Table III. COMPARATIVE RATES.

	Death Rates.					Infant Mortality Rates.				
	1922	1923	1924	1925	1926	1922	1923	1924	1925	1926
Birmingham	11.9	10.7	11.5	11.5	11.3	85	71	80	75	70
Liverpool	14.5	13.5	13.3	13.7	13.3	94	98	102	98	103
Manchester	14.0	13.1	13.7	14.1	13.0	94	85	97	92	83
Sheffield	11.6	11.3	11.5	11.5	11.1	81	89	88	83	78
Leeds	13.7	12.6	14.1	12.5	12.5	97	85	102	87	87
Bristol	12.8	11.2	12.0	13.2	11.3	71	61	69	76	68

Infant Mortality (See Tables 1, 2, 3, 5).

The infant mortality rate per 1,000 births for 1926 was 69.7, compared with a rate for 1925 of 75.8, for 1924 of 71.68, and for 1923 of 62.49. The infantile mortality rates as corrected by the Registrar-General are for 1926, 68, for 1925, 76, for 1924, 69, and for 1923, 69. The rate for the decade 1890-99 was 147.5, with a birth-rate of 29.0, and the infant mortality rate did not show notable decline until 1907, when it fell to 100.9. In 1910, the rate was 90.3, but again rose in 1911 (a remarkable summer with warmth prolonged into autumn) to 142.8. Since 1915 it has only exceeded 100 in one year, 1917, when it was 102.0. The early summer of 1921, when the infant mortality was at its lowest, was remarkable for its warmth and continuous drought, but this was not continued through the late summer months.

Infant mortality appears to be controlled by four main factors :—

- A. (1) Extreme summer heat prolonged into the autumn, responsible for diarrhoea deaths, with which is associated
- (2) the fly nuisance in the summer and autumn.
- (3) Extreme cold and inclement winds during the two winter quarters, aggravated by the presence of special epidemics such as measles.
- (4) Incompetent or mis-directed maternal care.

The notable lowering of infant mortality during recent years is therefore probably due—

- B. (1) To succession of cool and rainy summers, when the heat (if any) is not prolonged into the autumn.
- (2) To the replacement of horses by motor traffic, thus avoiding fly breeding in stable manure.
- (3) To successive green winters with no excessive cold or inclement winds.
- (4) The continuous and well directed work of Maternity and Child Welfare Centres.

Points A (1) and (2) are well indicated on Diagram 5., by a comparison of 1903, when wet and unsettled conditions prevailed almost without cessation through the month of August and the first fortnight of September, with that of 1911, which was notable for the extreme heat of August continued well into the second week of September.

CAUSES OF SICKNESS.

(See Tables 4 and 7).

A considerable amount of important work tending to elucidate the behaviour of infection in communities, has recently been done. The work of Topley and Greenwood has been carried out with infectious diseases in communities of rats. They draw these conclusions :—

- 1.—If you keep a herd of infected rats strictly isolated you will in time, perhaps in a short time, get rid of the infection.
- 2.—But if you allow a few “ unsalted ” * immigrants to dribble into the infected herd from time to time you will never get rid of the infection.
- 3.—The effect of every addition of susceptibles is to raise the virulence of the infection, and in time the hitherto immune members of the herd succumb, and at last even those who have recovered from the original infection succumb to the ever increasing power of the infection.
- 4.—It is a much safer thing for the herd to introduce a thousand susceptibles in one day than to introduce ten a day for a hundred days, for the obvious reason of the ever rising virulence which repeated ingress causes.

Surgeon Commander Dudley's work has been done upon humans in schools and depôts, and he has reached similar conclusions. “ If any one is exposed to ‘ droplet ’ infection from the respiratory passages—one of three things must happen :—

- 1.—We become invaded and develop the disease.
- 2.—We become “ carriers ” of the disease, or
- 3.—We become “ salted ” or immune to the disease.

Which result will happen will depend upon three variable factors :—first, the amount of infective material received by the host per unit of time ; second, the rate at which the infected material can be destroyed by the host ; third, the rate

* i.e., not exposed to sub-minimal doses of infection and thereby partially or wholly protected.

Reference—“ Lancet,” February 12th, 1927, p. 325.

at which the microbial proteins stimulate or depress the immunity mechanism of the host.

These factors being equal the result will depend upon the distance of a susceptible host from a distributor of infection as to whether the former becomes a case, a carrier, or immune.

There is another important factor in the wax and wane of a community infection, and that is bacterial variation in response to changes in the "herd immunity," and this will explain the dying out of a community infection despite increasing numbers of carriers and despite the continual introduction of fresh susceptibles, as happened at the Greenwich Naval School with a diphtheria outbreak. Dudley believes from his experience that carriers acting in a suitable environment may prevent great disease outbreaks by supplying sub-infective doses to the more susceptible members of a population. And in this way the general resistance to epidemic disease is increased and the "herd" is vaccinated by its carriers.

Accidents as a Cause of Mortality.

The Registrar General, in his Statistical Review for 1925 (p. 108), calls attention to the disproportionate number of deaths from violence due to motor vehicles (72% or more), and a Judge at the Bristol Assizes called attention to the same point.

According to the American Road Builders' Association, 3,000,000 people have received hospital treatment through street accidents in America during the last five years. Of this enormous total more than 100,000 cases proved fatal, and of these, 30,000 were children.

From returns kindly supplied by the Chief Constable of Bristol (J. H. Watson, Esq.), I find that during the past five years while accidents from horse-drawn vehicles have never caused more than two deaths in any one year and the total accidents average only 28 per year, those from mechanically propelled vehicles (excluding public omnibuses, chars-a-banc, and tramcars) have increased from 149 in 1922 to 408 in 1926 with a death roll averaging 16 per year. It is thus apparent that a new cause of death has been introduced which has to be taken into account. Serious offenders are motor-cyclists, who, being for the most part young and reckless, invite disaster. One important amendment of the Law required is a provision that all drivers (including motor cyclists) should possess a certificate of competence, ensuring at least the knowledge of how to stop as well as to start their mount. In Germany, the applicant for a driving licence has to take a three weeks' course of instruction at a training school, to pass a medical examination and finally to pass a driving test. The second outstanding danger is to be found at cross-roads, and County authorities would do good preventive work in diverting one of the secondary roads so that there is no through run across the main road.

Small Pox.

No cases of small-pox were reported during the year 1926. One case ("Port" introduction) was reported during 1924—no extension followed. The previous introduction, limited to 7 cases, occurred in December—January, 1920-21, and involved dislocation of the sanatorium work at Novers Hill.

Diagram 6.

Smallpox.

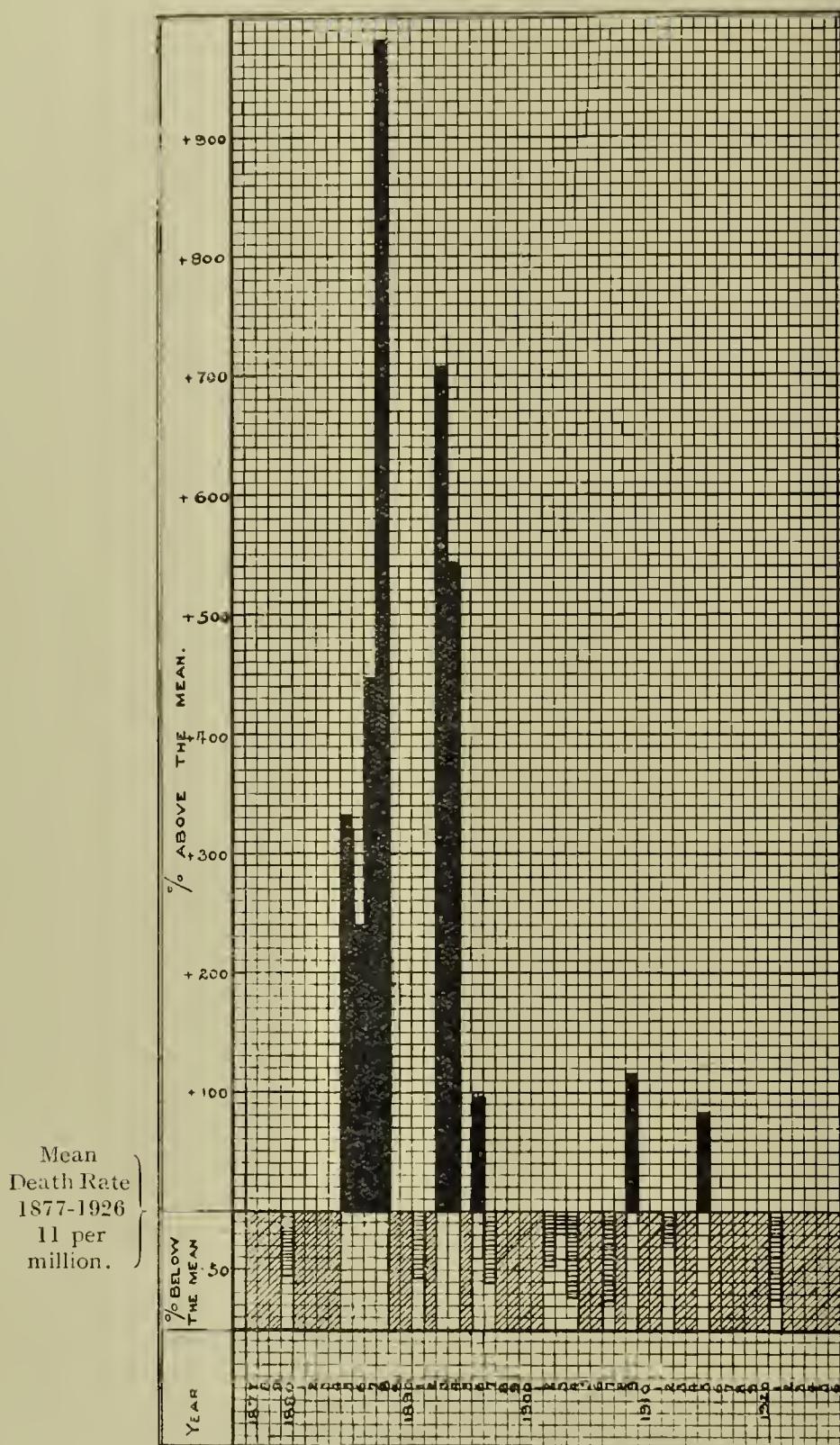


Diagram 6 explains itself. It is remarkable that no cases have been introduced in Bristol since 1921 (with the exception of a ship-borne case from Spain in 1924), although there was a serious epidemic of mild small-pox in the neighbouring city of Gloucester in 1923, and this has since extended widely in the midland and northern counties. A further extension has this year (1927) occurred in Monmouthshire.

In 1903, under similar conditions, it was introduced into Bristol on 15 separate occasions, but was in no instance allowed to assume epidemic proportions.

During the last 43 years there have been 102 introductions of small pox into the City (23 of these were through the Port). (See Table IV).

The total number of known cases arising out of these introductions was 1,243, and 127 deaths occurred.

This gives an average of 12 cases per introduction over the whole period.

Table IV. **Smallpox (City and Port).**

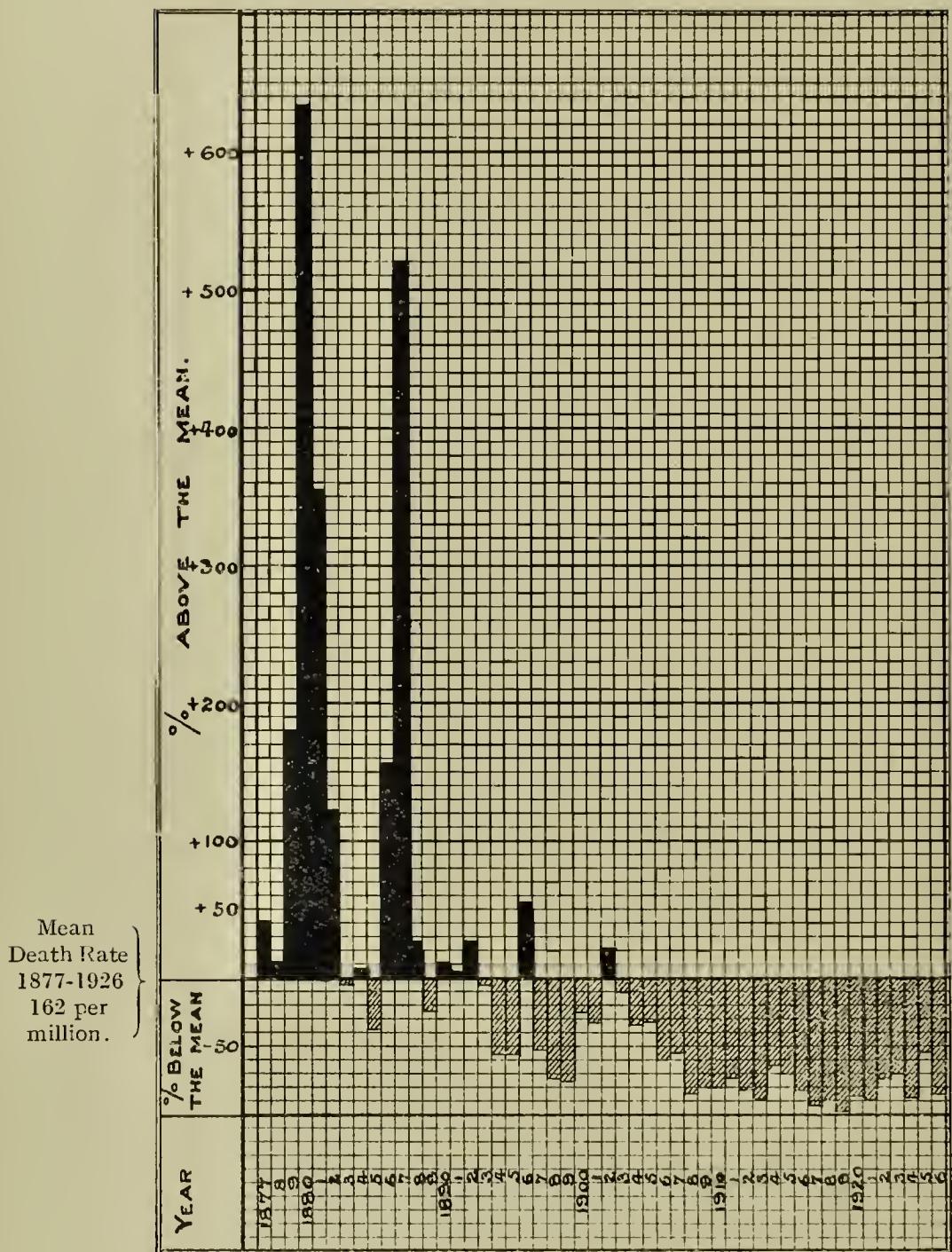
Year	Cases Notified	Attacks per 100,000 Living	Deaths	Deaths per 100,000 Living	Case Mortality per cent.	Port Introductions	Total Introductions
1884	7	—	—	—	—	—	3
1885	33	—	10	—	—	4	13
1886	85	—	8	—	—	1	6
1887	163	—	13	—	—	—	4
1888	224	—	26	—	—	1	2
1889	1	—	—	—	—	—	1
1890*	1	0.4	—	—	—	1	1
1891	18	8	1	0.4	5.5	1	2
1892	—	—	—	—	—	—	—
1893	166	73	20	8	12	1	7
1894	201	88	16	7	7.9	—	5
1895	4	1	—	—	—	—	1
1896	42	18	5	2	11.9	—	3
1897	10	4	1	0.4	10	1	2
1898†	2	0.6	—	—	—	1	2
1899	—	—	—	—	—	—	—
1900	—	—	—	—	—	—	—
1901	1	0.3	—	—	—	1	1
1902	5	1	2	0.6	40	3	4
1903	46	14	3	0.8	6.5	1	14
1904‡	34	9	1	0.2	2.9	—	6
1905	13	3	—	—	—	—	5
1906	32	8	—	—	—	—	4
1907	6	1.6	1	0.2	16.6	1	4
1908	1	0.2	—	—	—	—	1
1909	41	10	9	2	21.9	—	3
1910	4	1	—	—	—	1	2
1911	—	—	—	—	—	—	—
1912	62	17	3	0.8	4.8	2	2
1913	—	—	—	—	—	—	—
1914	—	—	—	—	—	—	—
1915	32	8.7	7	1.9	21.7	1	2
1916	1	0.3	—	—	—	—	—
1917	—	—	—	—	—	—	—
1918	—	—	—	—	—	—	—
1919	—	—	—	—	—	—	—
1920	—	—	—	—	—	—	—
1921	7	1.8	1	0.2	14.2	1	1
1922	—	—	—	—	—	—	—
1923	—	—	—	—	—	—	—
1924	1	0.2	—	—	—	1	1
1925	—	—	—	—	—	—	—
1926	—	—	—	—	—	—	—
Totals	1,243		127			23	102

* Compulsory Notification began. † City extended. ‡ City again extended in 1904.

|| Continuation of 1893 Epidemic ; 11 tramp introductions

Diagram 7.

Scarlet Fever.



The case mortality from scarlet fever has shown very favourable improvement during recent years. In the earlier and mid-Victorian period a fatality rate of 17%, 18% or even 20% was not uncommon. In the present day we do not expect a fatality rate to equal 2%.

It will be noted that since notification attained full working efficiency, the limitation of introduced outbreaks has been very successful. Thus of the 15 introductions in 1903, 10 were limited to the original infected houses; and since 1895 the 58 introductions only produced an average of 5 resultant cases each.

Small-pox in epidemic form costs on an average £30 per case, hence this continuous limitation is of money value to the City.

Scarlet Fever.

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total
1926 Notifications ...	359	181	199	212	951
Deaths ...	... 6	2	—	1	9

The disease was generally of a mild type, but if unsuitably circumstanced cases are not removed to hospital, home-over-crowding and consequent spread may result in development of septic complications and heightened mortality.

Table V.

Scarlet Fever.

Year	Cases Notified	Attacks per 100,000 Living	Deaths	Deaths per 100,000 Living	Case Mortality per cent.
1890	559‡	253	40	18	7.1
1891	888	400	37	17	4.1
1892	1,442	644	47	21	3.2
1893	1,245	553	35	16	2.8
1894	485	214	16	7	3.2
1895	562	252	16	7	2.8
1896	1,352	586	59	24	4.3
1897	511	220	18	7	3.5
1898*	382	120	14	4	3.6
1899	697	217	13	4	1.8
1900	1,957	602	39	12	1.9
1901	2,206	670	36	10	1.6
1902	2,724	793	66	19	2.4
1903	2,168	639	49	14	2.2
1904†	1,258	366	36	10	2.8
1905	1,085	302	39	10	3.5
1906	1,019	280	27	7	2.6
1907	886	240	26	7	2.6
1908	486	127	10	2	2.0
1909	692	183	12	3	1.7
1910	1,216	317	12	3	0.9
1911	953	266	16	4	1.6
1912	580	161	12	3	2.0
1913	1,738	471	6	1	0.3
1914	2,211	609	22	6	0.9
1915	1,069	302	18	5	1.7
1916	629	183	10	3	1.6
1917	257	76	3	1.3	1.1
1918	278	82	6	1.7	2.1
1919	363	100	2	0.5	0.5
1920	1,411	375	9	2.3	0.6
1921	1,576	412	7	1.8	0.4
1922	1,852	482	18	4.6	0.9
1923	1,444	374	19	4.9	1.3
1924	831	215	8	2	0.9
1925	1,494	387	29	7.5	1.9
1926	951	248	9	2	0.9

* City extended. † The City was further extended in 1904.

‡ Notification commenced on February 12th, 1890, so that the case mortality for this year is probably overstated.

Return Cases of Scarlet Fever.

In a thoughtful paper in "Public Health" for March, 1926, Dr. T. W. N. Barlow discusses the value of the isolation hospital in the prevention of infectious disease. In the course of his paper he remarks :—"The third point is that return cases in scarlet fever are much less likely to occur with home-treated cases than with cases treated in hospital," and quotes figures which he claims "show conclusively . . . that there is distinctly less chance of return cases arising after home isolation."

I am aware that the ingenuous aspirations of last century that by hospital isolation we were going to cut short outbreaks of scarlet fever, were doomed to disappointment, but the real question we want to solve is not merely the incidence of "return cases," a term with a strictly limited connotation, but we desire some answer to the question : "Which procedure is followed by the least number of resultant cases, removal to hospital or home nursing?" I have examined my figures for the past six years dealing with 4,236 primary cases removed to hospital, and 3,918 nursed at home, and my figures show that the total number of secondary cases directly associated with the primary cases or presumably so, are considerably more for the home-nursed cases than for those removed to hospital, including "return cases." There would therefore appear to be a distinct advantage, as indicated by the fewer secondary cases, gained by removal to hospital.

Dr. Barlow defines (p. 175, column one) secondary cases as "cases presumably infected by primary cases *after* release from isolation," *i.e.*, he uses this word alternatively for "return cases."

He apparently does not take into account the early secondary cases given in the Bristol figures, *i.e.*, those infected by the primary case, but arising *before* release from isolation. Presumably if he did so, his figures and deductions would be different.

For cases removed to hospital, I suggest the use of the terms early secondary and late secondary (return cases) to distinguish the two classes. In the case of home nursed cases, the two can be simply classed together as secondary cases.

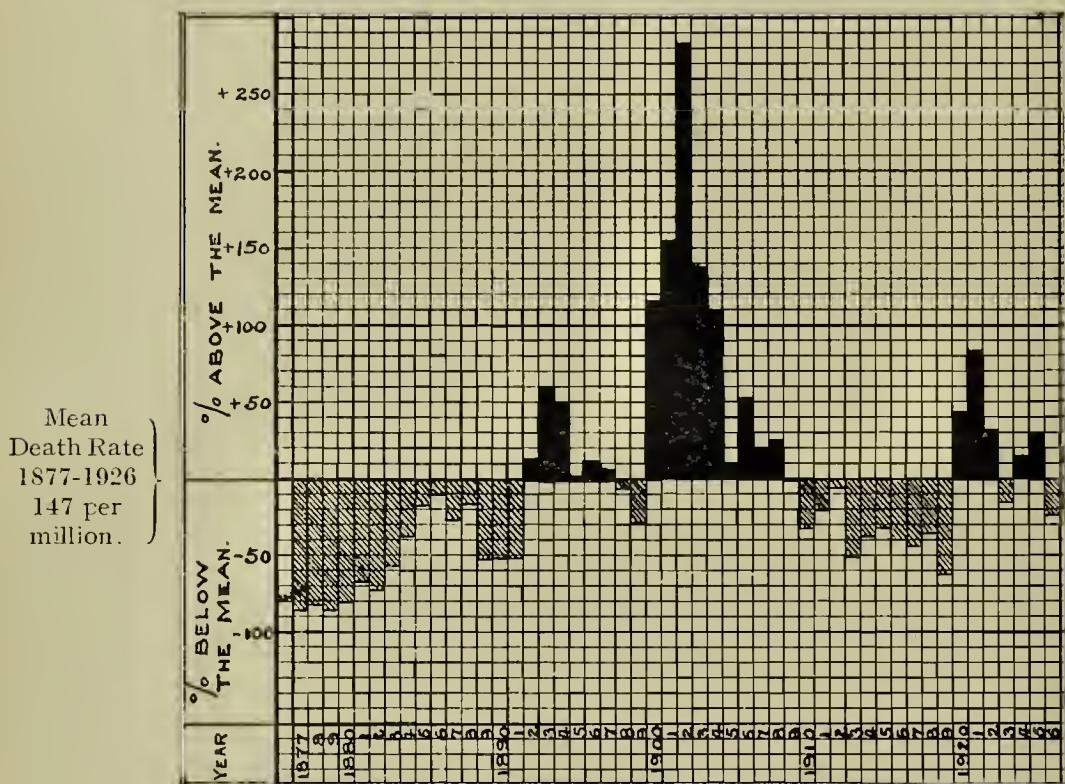
It seems to be misleading to consider late secondary (or return) cases only, without taking early secondary cases into consideration.

Table VI.
Scarlet Fever.

Year	CASES REMOVED TO HOSPITAL.			HOME NURSED CASES.				
	Primary Cases removed to Hospital	Early Secondary cases occurring within 7 days of removal of Primary Case	Early Secondary Case Rate per cent.	Late Secondary cases occurring within 28 days of a patient's discharge from Hospital. (Return Cases)	Total Secondary Case Rate per cent.	Primary Cases Nursed at Home	Secondary Cases occurring within 52 days of onset of Primary Case	Secondary Case Rate per cent.
1921	574	14	2.4	18	3.1	5.5	1002	13.8
1922	985	43	4.3	24	2.4	6.7	867	14.7
1923	813	28	3.4	21	2.5	5.9	631	11.7
1924	507	17	3.3	18	3.5	6.8	324	10.1
1925	755	30	3.9	19	2.5	6.4	745	14.09
1926	603	39	6.4	13	2.1	8.5	349	9.7

Diagram 8.

Diphtheria.



Diphtheria which had not invaded Bristol seriously until the early 'nineties became particularly widespread and virulent between 1900 and 1904, remaining persistently above the mean until 1908. Between the years 1919 and 1926 a particularly virulent type was in evidence although the disease was not so widespread in the City.

Diphtheria.

1926	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total
Notifications ...	231	171	135	174	711
Deaths ...	15	8	11	9	43

Table VII.—Diphtheria (including Membranous Croup).

Year	Cases Notified	Attacks per 100,000 Living	Deaths	Deaths per 100,000 Living	Case Mortality per cent.
1890	56‡	25	16	7	28.5
1891	70	31	16	7	22.8
1892	106	47	38	16	35.8
1893	141	59	53	23	37.5
1894	128	56	50	22	39.0
1895	165	69	34	14	20.6
1896	258	111	38	16	14.7
1897	205	88	36	15	24.7
1898*	217	68	44	13	20.2
1899	215	67	33	10	15.3
1900	506	155	103	31	20.3
1901	908	275	124	37	13.6
1902	1,109	325	189	54	17.0
1903	1,134	331	119	35	10.4
1904†	1,051	305	105	30	9.9
1905	1,021	284	59	16	5.7
1906	839	231	82	22	9.7
1907	926	251	68	18	7.3
1908	924	243	69	18	7.4
1909	712	188	55	14	7.7
1910	556	145	38	9	6.8
1911	584	163	42	11	7.1
1912	643	178	48	13	7.4
1913	762	206	33	8	4.3
1914	633	174	39	10	6.1
1915	505	143	36	10	7.1
1916	407	118	30	8	7.3
1917	376	112	27	12	7.1
1918	420	124	36	10	8.5
1919	448	124	27	7	6.0
1920	956	256	78	20	8.0
1921	1,426	373	107	28	7.5
1922	886	230	74	19	8.3
1923	737	191	49	12	6.6
1924	979	253	63	16	6.4
1925	1,128	292	74	19	6.6
1926	711	185	43	11	6.0

* Enlarged City.

+ City again extended in 1904.

‡ Notification commenced February 12th, 1890.

Arrangements are made for protection of the hospital staff, as authorised by the Committee (Schick method). Cf. pp. 10-12.

Early in 1922 the whole of the Ham Green nursing and domestic staff (135) were tested, and the positives (33) duly protected with T.A.T. Each new entrant is similarly protected before undertaking the nursing of diphtheria cases.

Diphtheria has been prevalent at Muller's Orphan Houses, Ashley Down, as shown by the following table :—

Year.	Diphtheria.
1922	1
1923	8
1924	1
1925	15
1926	39
	64

Only two deaths have been recorded during the past five years however, one in 1923 and one in 1925.

The Medical Officer of Health advised that the only effectual steps to prevent the spread of diphtheria in the Orphanage are steps to secure immunisation of the inmates by methods similar to those most successfully adopted at Ham Green Hospital. In 1920 and 1921, 23 members of the staff at Ham Green contracted diphtheria, and one died. Diphtheria was a constant menace to the nursing staff. In 1922 we commenced to immunise our nurses systematically and diphtheria among the nursing staff is now practically unknown. We have suggested to the authorities at Ashley Down Orphan Houses that this procedure should be carried out, and the directors have expressed complete willingness to undertake this if they can obtain the consent of the parents and guardians. This difficulty, however, appears for the present to be insurmountable.

Enteric Fever.

1926.	1st	2nd	3rd	4th	Total
	Quarter.	Quarter.	Quarter.	Quarter.	
Notifications ...	2	5	6	3	16
Deaths ...	—	2	—	1	3

This disease, one of the few dependent directly on "insanitary" conditions, is practically under control.

(Port cases excluded—4 notifications: no death).

Table VIII. Enteric Fever (including Paratyphoid).

Year	Cases Notified	Attacks per 100,000 Living	Deaths	Deaths per 100,000 Living	Case Mortality per cent.
1890*	122	55	33	14	27.0
1891	117	52	23	10	19.6
1892	135	60	18	8	13.3
1893	122	54	26	11	21.3
1894	90	39	21	10	23.3
1895	89	59	22	9	24.7
1896	110	47	20	8	18.1
1897||	350	151	47	20	13.4
1898†	113	35	26	8	23
1899	219	68	35	10	16
1900	285	88	44	13	15
1901	281	85	40	12	14
1902	319	93	58	17	18
1903	134	39	21	6	15
1904‡	172	50	26	7	15
1905	76	21	13	3	17
1906	120	33	21	5	17
1907	74	20	15	4	20
1908	103	27	10	2	9
1909	66	17	12	3	18
1910	85	22	9	2	10
1911§	148	41	18	5	12
1912	79	21	7	1	8
1913	64	17	5	1	7
1914	98	27	9	2	9
1915	45	12	13	3	28.8
1916	19	5	2	0.6	10.5
1917	52	15	4	1.7	7.6
1918	69	20	8	2.3	11.5
1919	33	9	6	1.6	18.1
1920	48	12	4	1.0	8.3
1921	35	9	2	0.5	5.7
1922	31	8	1	0.2	3.2
1923	32	8	5	1.2	15.6
1924	42	10	4	1.0	9.5
1925	23	6	4	1.0	17.4
1926	16	4	3	0.8	18.7

* Notification commenced February 12th, 1890, so that the case mortality for this year is probably overstated.

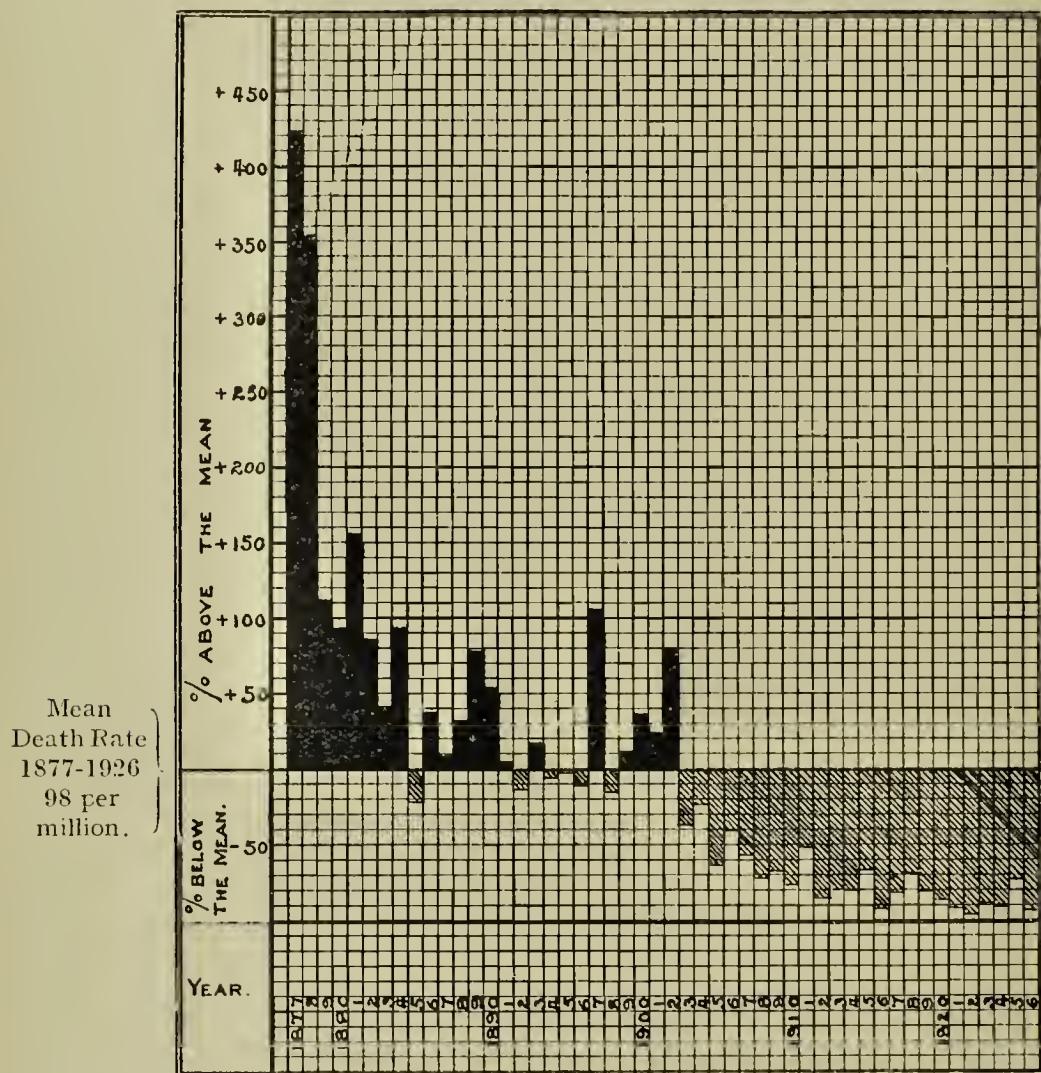
† Extended City. ‡ City again extended in 1904.

§ Localised Outbreak in St. James'.

|| Milk Outbreak introduced from the County.

Diagram 9.

Enteric Fever.



The diminution of the incidence of enteric fever is satisfactorily maintained. During the past year three deaths occurred out of 16 attacks, but this gives a fatality rate of 18.7.

**Acute Anterior Polio-myelitis : Acute Polio-encephalitis.
(Infantile Paralysis).**

1926.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total
Polio-myelitis.					
Notifications	—	1	2	7	10
Deaths	...	—	1	1	2

Polio-encephalitis.

Notifications	—	—	—	—	—
Deaths	...	—	—	—	—

Late in the year 1926 a chance introduction from an infected area in England caused some unnecessary alarm, and the remarkable increase in the notified cases of this disease in England and Wales during 1926 compared with the previous year, (1303 compared with 422) or three times as many, has prompted an enquiry into its distribution in England and Wales in view of its possible introduction in epidemic form into Bristol which has during the past few years enjoyed a satisfactory immunity.

From Diagram 10, which indicates the number of cases occurring in the registration county areas during the years 1925 and 1926, we see that the disease in 1925 was present chiefly (excepting London) in the county areas of Lancashire, the W. Riding of Yorkshire, and, in less degree, in Warwickshire, Staffordshire and Cheshire. The greater part of Wales (except Glamorgan) was practically free, as was the west of England in general. Nor did the eastern counties show any marked foreshadowing of the immense increase in prevalence which has distinguished the year 1926. The most remarkable increase has occurred in Leicestershire, where the two cases of 1925 became 156 in 1926, a 78 fold increase, accompanied by a 7 fold increase in Nottinghamshire. The figures for Lancashire and Warwickshire, sufficiently high in 1925, have more than doubled themselves, and similar indications of progressive prevalence are generally in evidence over the northern and midland counties. The eastern counties, only sparsely affected in 1925, showed abnormal increases, thus Essex yields a 6 fold increase and Kent a 13 fold increase over the figures of the previous year. The diagram shows clearly that although not yet seriously implicated, the disease may steadily march west along the south coast and must be regarded as a possible enemy in the near future.

The disease has been present in sporadic form for years, and minor epidemics have occurred locally, one in 1909-10 was reported on by Dr. George Parker (of British Medical Journal, 18th March, 1911, p. 609), who dealt with many of the resulting cases of paralysis at the Bristol General Hospital.

The group of nervous communicable infections which have been in evidence since the war appear to have the common factor that the majority of a population may be immune to infection themselves but this does not prevent them from

carrying the infection and unwittingly handing it on to others who are susceptible. This points to the extreme care necessary in attendance on the sick, and to their preferable isolation in hospital, especially in epidemic times when the disease manifests added virulence.

Polio-myelitis (infantile paralysis) is no new disease, and provided it does not assume a fatal epidemic form as at New York in 1916, or in Cornwall in 1910, its endemicity is probably an advantage by producing a "salted" population, *i.e.*, a population immunised by sub-minimal doses, as in the parallel cases of measles, tuberculosis and diphtheria.

To be forewarned is to be forearmed, therefore I have prepared for distribution the following short indication of the necessary preventive measures :—

"This disease has been more prevalent in England and Wales during 1926 than in any year since 1919, and one or two definite epidemics have occurred.

The heaviest incidence in Bristol was between 1919 and 1923, since which time it has been consistently low.

The present extension in parts of England and the experience of other countries suggest that the organism is liable to an increase in virulence, as in the 1916 outbreak in New York, which comprised 13,223 cases with a mortality of 25 per cent., in place of 10 to 12 per cent., which appears to be the usual fatality rate. The fact that the disease has departed from its normal maximum seasonal incidence (July, August and September in northern latitudes), and has increased during the colder months, gives further ground for taking precaution against a possible outbreak.

It is, therefore, essential to adopt measures to limit its spread from introduced cases *before* the disease becomes epidemic.

The patient is not the only source of infection : persons in close communication (contacts) in the same house may become active "carriers" of the infecting organism in the upper respiratory passages, although they themselves remain in apparent health.

Rare in the first year, the majority of cases occur in the second or third year of life. Young adults are not infrequently attacked, though most individuals become immune after childhood. The essential pathology of the disease consists in an acute inflammation of the grey matter, especially of the anterior cornua of the spinal cord, but the central nervous system may be affected at any level. (For an account of the clinical manifestations see Collier & Adie, "Acute Anterior Polio-Myelitis," in Price's Textbook of the Practice of Medicine).

Rules for conduct of a case.

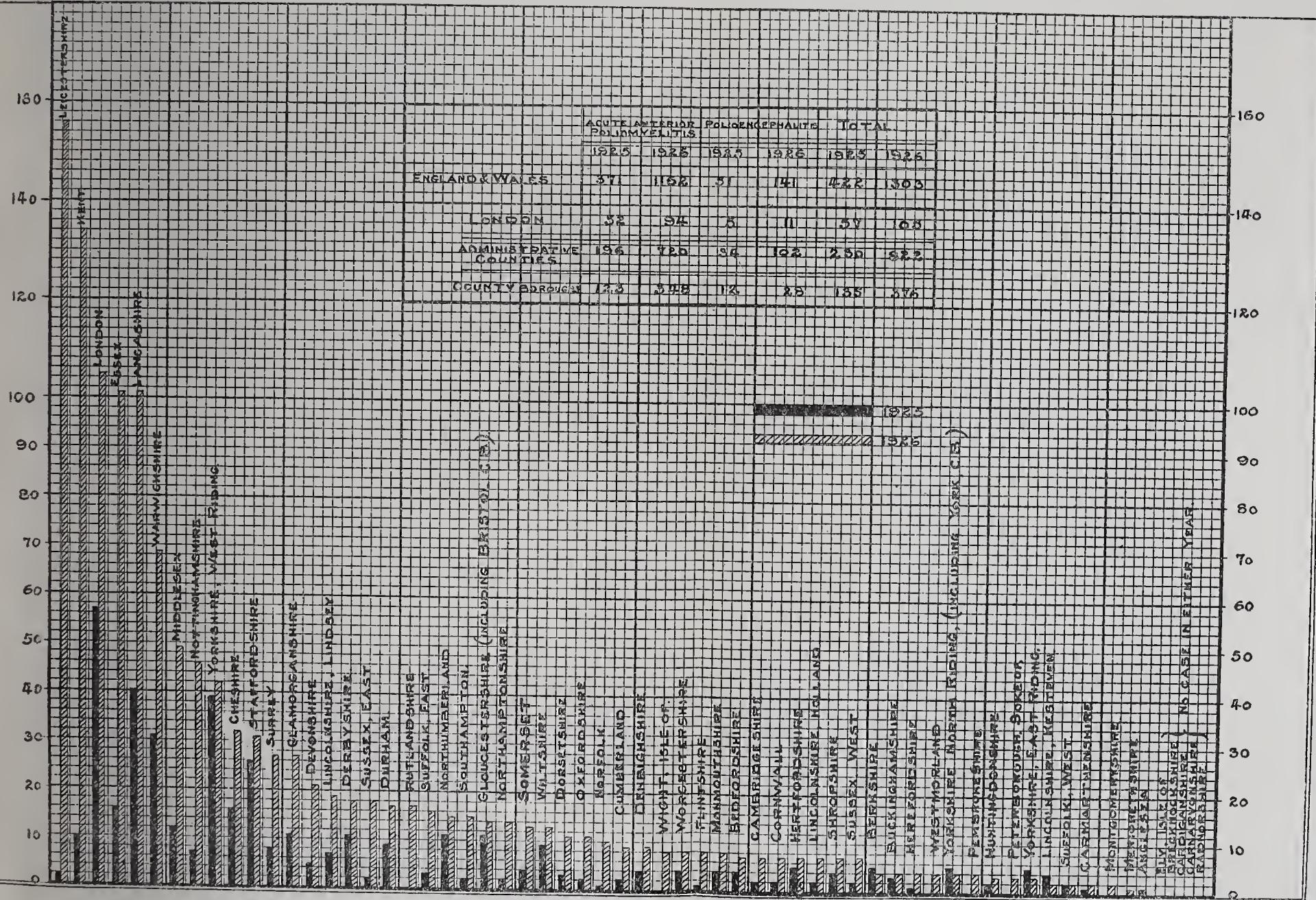
Cases must be notified at once to the Medical Officer of Health.

1.—The patient should be carefully isolated during the acute stage of the disease, which is estimated to be six weeks.

Diagram 10.

Acute Anterior Polio-myelitis and Acute Polio-encephalitis.

1925 and 1926.

Distribution of Notifications in Registration Counties of England and Wales.

2.—If strict isolation is not available the patient should be removed to an Isolation Hospital.

3.—The secretions of the mouth, nose and intestines should be regarded as infectious. Handkerchiefs, clothing and bed linen should be disinfected.

4.—The mouth, nose and throat of the patient and of those who are in close contact with him, should be treated thrice daily with gargles and nasal spraying, using a 1 in 5,000 solution of potassium permanganate in normal saline. Some authorities consider that the application of antiseptics to the nasopharynx may diminish the normal bactericidal power of the mucous membrane. For this reason it is possibly unwise to employ the strongly antiseptic solutions sometimes recommended. The solution given above is safe in this respect, and the purely mechanical effect of lavage of the mucous membrane is considered to have much value.

A solution of this strength can be made by adding 1.75 grains of potassium permanganate, or one and three-quarters drachms of Condy's Fluid, to a pint of warm water, with 80 grains, roughly a teaspoonful, of common salt; table salt is unsuitable.

5.—Where the medical attendant is unable to undertake supervision of this preventive spraying, which should be carried out in every case, the arrangements will be taken in hand by the health department, through a Home Nurse acting under medical supervision.

6.—Contacts should refrain from intimate personal association with others, and should abstain from kissing or fondling children; also during their period of probation (three weeks from last date of contact with a patient in the acute stage) they should not frequent any crowded assembly or private party, nor should they play games involving close contact (e.g. Rugby football) but otherwise they should take exercise in the open air. All child contacts must be excluded from school attendance.

7.—Visitors should not be entertained.

8.—All conditions of overcrowding, insufficient ventilation, and uncleanliness should be attended to.

9.—It is strongly recommended that no school be closed without first consulting the Medical Officer of Health.

10.—The most important *preventive* measure is not to allow the contacts, or the attendants, or members of the family, to become carriers of infection. The doctor himself might well practise lavage as described above before visiting other sick persons.

The disease is compulsorily notifiable, and is classed amongst the dangerous infectious diseases.”

Encephalitis Lethargica.

This newly recognised disease was much in evidence in Bristol during 1919-20-21, when the Ministry instituted a special enquiry into its prevalence.* It continued in some excess over the first quarter of 1921 (45 cases—12 deaths), and thereafter

subsided, to re-appear in excess in the second quarter of 1924 (120 cases—16 deaths).

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total
Notifications ...	17	6	6	11	40
Deaths ...	12	1	4	5	22

During 1924 an enquiry was instituted into the serious late manifestations apt to follow this disease. The investigation was carried out for this department by Dr. Dorothy Staley.

The question of the distressing after-effects of this disease came up for consideration owing to a suggestion received from Birmingham regarding special institutional treatment for victims of the mental sequelae, who cannot properly be associated with mental defectives.

This view receives support from an interesting statement by Dr. Phillips, Medical Superintendent of the Southmead Hospital, Bristol, who has had considerable experience in dealing with patients suffering from the after-effects of encephalitis.

Dr. Phillips makes the following observations :—

"General Lines of Management."

Adults.

For the last 12 months we have been attempting more and more to treat adult patients on the lines of an open-air colony and open-air life. Where possible patients sleep in balconies in the open air. They are gradually stimulated to walk about the grounds and take interest in open-air pursuits, e.g., one case W.P.U. 26 Male, on admission bed-ridden but no organic lesions. Very melancholic and when made to get up, went back to bed almost immediately unless prevented. By graduated stages now keeps up and about for 6 hours each day—can walk quite well and is definitely improving.

Terraces in front of the hospital have been made into "putting greens," and these patients encouraged to use them. Restlessness and sleeplessness seem better overcome by obtaining natural fatigue (as above) than by use of drugs, e.g., boys who could not sleep at night were encouraged to kick about a football until thoroughly tired. Restlessness soon began to vanish.

The installation of wireless has also given a new interest and improved the powers of concentration in many of the adults.

It is upon these lines that signs of permanent improvement have been made.

Children.

The fewest number of return cases are found to be amongst the younger patients.

In regard to inversions of sleep rhythm, such cases have been tried in rooms illuminated with various coloured

* Reports on Public Health and Medical subjects.

No. 11. ENCEPHALITIS LETHARGICA—Dr. Allan C. Parsons
Ministry of Health, 1922. 10/- net.

lights and of these blue seems to have the most subduing effect, but as a whole the scheme was a failure, and careful discipline had much better results.

One child, who was uncontrollable at home and screamed all night, although behaving well during the day, was placed in a cot over which a sheet had been stretched tightly and sewn into position, so that she could not hurt herself, while she was under no restriction inside the cot and all the sides were freely open to the air. For a few nights she tried in vain to undo the sewing, finally wearied and fell asleep. Since then she had slept relatively well and caused little trouble. Her general condition is improving, she attends afternoon school for convalescent children. She is gaining in weight and bids fair to become quite a normal child. Her intelligence seems in no way impaired.

I feel convinced that the various aberrations of conduct and behaviour traceable to encephalitis yield best to a firm but kindly discipline.

Children are also encouraged to spend as much time as possible in the open air, and are all sent to a school for three hours daily in the hospital.

It is also hoped to provide ultra-violet ray treatment during the winter months.

Fruit is included in the diet and cod-liver oil and malt with iron given as a routine.

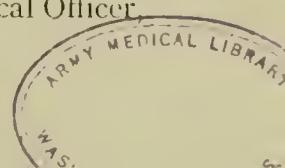
Finally, massage and remedial exercises are given to both adults and children and though progress is slow, the effect on the morale of the patients is excellent.

Dr. Phillips concludes his most interesting report by pointing out that the most encouraging results have been in the younger patients and along the lines of active and occupational interests in the open air. Drug treatment has been disappointing and patients who have developed the Parkinsonian symptoms (similar to paralysis agitans) make little, if any headway, and in all these the prognosis is bad."

I have quoted Dr. Phillip's report at some length because his practical experience is of immense value as indicating the sort of treatment which is necessary in these cases and which differs materially from the treatment required in a home for mental defectives. The cases treated at Southmead in 1925 totalled 31, of which 11 were men, 13 women, and 7 children. Those treated in 1926 (up to 30th September) were 24.

After-results of Encephalitis Lethargica ("Times," December 13th, 1926). London Experience.

The Metropolitan Asylums Board have for the past year carried on a Unit for 100 cases between 3 and 16 years at the Northern Hospital for the treatment on lines similar to those in use at Southmead, and on the advice of their Medical Officer, Dr. Borthwick, will continue it for another year.



During the year 133 cases were admitted, and 40 discharged. Of these 12 were much improved, six not likely to show improvement, 4 were unsuitable and 18 left at parents' request. No deaths occurred. Dr. Borthwick considers that the chief value of the Unit is not curative, but as a clearing house where cases may be classified and allocated, a difficult matter when more than one manifestation of the post-encephalitic state is present. He noted psychic changes in the majority of cases, varying from slight departure from normal to maniacal outbursts. Ordinary discipline, by day and night, improved the milder cases, who are better away from home surroundings until fit for discharge, when special class teaching at school might fit them for citizenship.

The more severe cases, uncontrollable temper, lying, thieving, sexual eroticism, are apt to relapse, and the outlook is not hopeful, and Dr. Borthwick concludes that they will require at 16 some permanent industrial colony where they may work under very necessary direct control. This is the class which may be included in the proposed amendment to the Mental Deficiency Act. Where maniacal outbursts occur, a wing of a mental hospital with constant supervision is indicated, little can be done for the hopelessly bedridden, nocturnal restlessness will yield to discipline or to suggestion, e.g., a hypodermic of sterile water.

Many further suggestions for treatment are made in this interesting report.

According to the instructions given by the Committee, a Conference was held with representatives of the Bristol Board of Guardians and the Education Committee. A careful review was made of the present condition of cases of encephalitis lethargica in Bristol, and reports prepared by Dr. Staley, Dr. Phillips (Medical Superintendent of Southmead Hospital), and the School Medical Officer were considered.

The Conference passed the following Resolution :—

“ That in our opinion the great majority of patients suffering from late manifestations of encephalitis lethargica are unsuitable for dealing with under the Mental Deficiency Act. We consider that what is required for these cases is a healthy out-of-door life under skilled discipline. With the exception of a small minority of patients who might perhaps be dealt with under the Lunacy or Mental Deficiency Acts we consider that these cases will be most benefited by a regime as suggested above, in an institution apart from mentally defective or insane persons.”

“ There is in Bristol at present a considerable number of patients of practically all ages and sexes sufferings from various nerve ailments as the result of encephalitis. Cases are being treated in the Poor Law Hospital at Southmead, and except in special emergency it would seem that there is ample provision for our present needs. In view of these circumstances, the Conference do not feel that they would be justified in pressing the Ministry to sanction the provision of special accommodation for encephalitis

patients from the Bristol area. They recommend, however, that a memorandum should be sent in reply to the letter from the Birmingham City Council setting forth the above opinion, which they have formed after very careful consideration of the matter in all its aspects."

Dysentery.

	Mental Hospital.		Others.		Total.	
	M.	F.	M.	F.	M.	F.
1926.						
Notifications ...	49	51	3	1	52	52
Deaths ...	—	6	2	—	2	6
						104
						8

As will be seen from the above figures, dysentery has again proved troublesome at the Mental Hospital. During the present year (to May, 1927) only 2 sporadic cases have been notified and the disease appears to be well under control.

Malaria.

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total
1926.					
Notifications ...	2	2	—	1	5
Deaths ...	—	—	—	—	—

As the anopheles mosquito, the "porter" of malaria, is not extinct in England, the Ministry is keeping a constant watch against the introduction of virulent types of malaria from abroad.

(Port cases excluded—2 notifications).

Influenza and Acute Primary Pneumonia.

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total
1926.					
Notifications ...	134	135	39	113	421
Deaths ...	—	—	—	—	—

These diseases are personal and most readily acquired in crowded assemblies.

Table IX. Measles and German Measles.

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total
1926.					
Deaths ...	... 2	3	—	—	5

Year	Cases	Deaths	Deaths per 100,000 living.	Case Mortality per cent.
1916*	3635	116	33.7	3.2
1917	734	1	0.8	0.1
1918	7962	207	61.2	2.6
1919	650	4	1.1	0.6
1920†	1863	97	25.8	5.2
1921	777	25	6.5	3.2
1922	1011	62	16.1	6.1
1923	1838	34	8.8	1.8
1924‡	415	15	3.9	3.6
1925	5748	250	65.1	4.4
1926	426	5	1.3	1.2

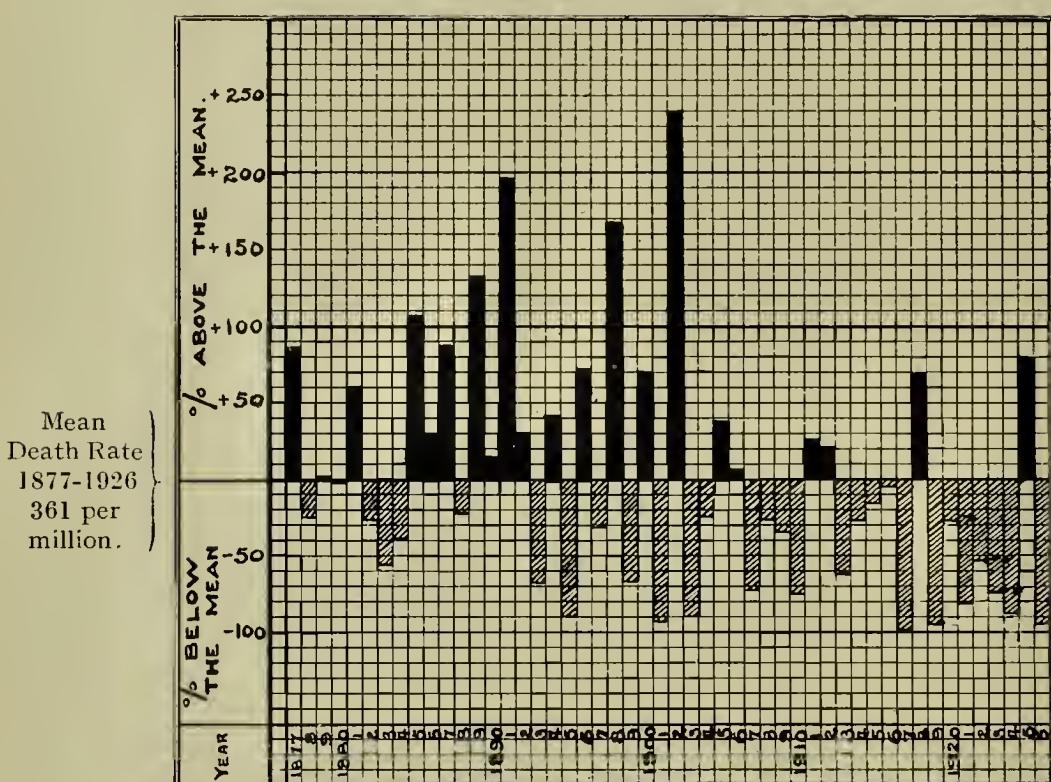
* Disease notifiable from 1916 to end of 1919.

† 1920-1923—cases relate to children attending public elementary schools.

‡ 1924 onwards—elementary school children and cases discovered by Home Nurses, etc.

Diagram 11.

Measles.



Measles is one of the most constant causes of death at susceptible ages, being mainly fatal at ages under 5 and is often associated with outbreaks of whooping cough, which shows fatality at similar ages.

The disease was notifiable from 1916 to the end of 1919, when notification was discontinued, so that we must again rely upon information from medical practitioners, home nurses and others as to cases urgently requiring attention, preferably to be given in hospital when hospital room becomes available.

During 1926, 426 cases of measles and german measles were so reported and all these were visited by the Home Nurses and precautions advised.

Hospital beds were found for 5 urgent cases at Ham Green.

During 1926, 5 deaths occurred from measles. 250 deaths occurred in 1925. The previous prevalence was in the first and second quarters of 1918, when 207 deaths occurred. This disease recurs with fair regularity every 3 or 4 years. Available hospital provision for urgent cases will save life.

Table X. **Whooping Cough.**

1926	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total
Deaths	... 14	13	3	—	30

Year	Cases *	Deaths	Deaths per 100,000 living	Case mortality per cent.
1924	134	8	2.1	6.0
1925	936	75	19.4	8.0
1926	873	30	7.8	3.4

* Cases reported from public elementary schools and discovered by Home Nurses, etc.

All cases of children of school age reported from the public elementary schools were visited by the Home Nurses. Hospital accommodation for suitable cases is very necessary for saving life in this disease.

Table XI. **Chicken Pox and Mumps.**

Year ...	1924	1925	1926
Chicken-pox ...	684	1782	1055
Mumps ...	984	382	1047

These cases were reported from public elementary schools or discovered by the Home Nurses when visiting homes.

Diagram 12.

Whooping Cough.

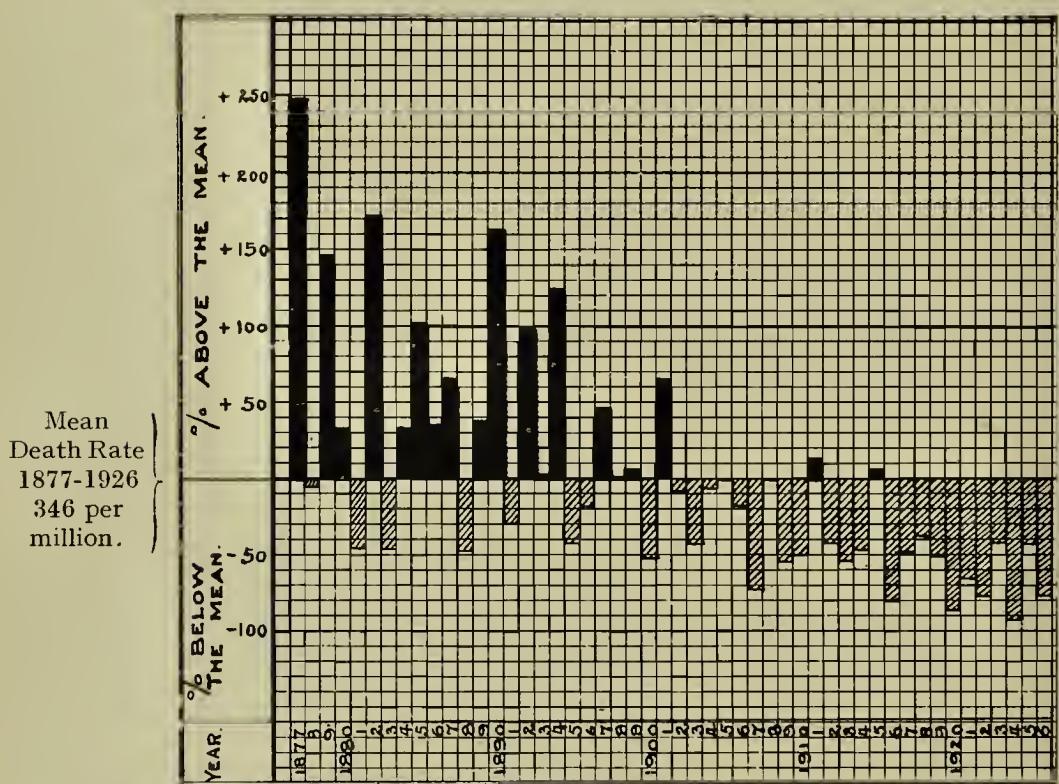


Table XII. Infantile Diarrhoea.

Deaths under 2 years of age :—

	1911	1913	1921	1922	1923	1924	1925	1926
August	194	40	16	6	7	3	8	2
Sept.	124	48	14	12	14	5	20	6
	318	88	30	18	21	8	28	8

The small number of deaths (compared with 1911) from this disease through the summer is again noteworthy, and in large part accounts for the very low infant mortality. As a rule, extreme heat in the late summer and early autumn is accompanied by a considerable diarrhoeal mortality : the summer of 1926 was not marked by extreme heat, and was fairly wet.

As shown in detail in the Report for 1922, it is the prolongation of the summer heat wave into the late summer and early autumn that is accompanied by excess of infant mortality from diarrhoea.

These indications were notably present in 1911, whilst in 1921 the extremely hot weather of July was not continued through August, and in 1922, though June was a hot month to begin with, it soon became cooler ; and the weather was inclement, cold and wet through August ; September, though dry, showed a low temperature.

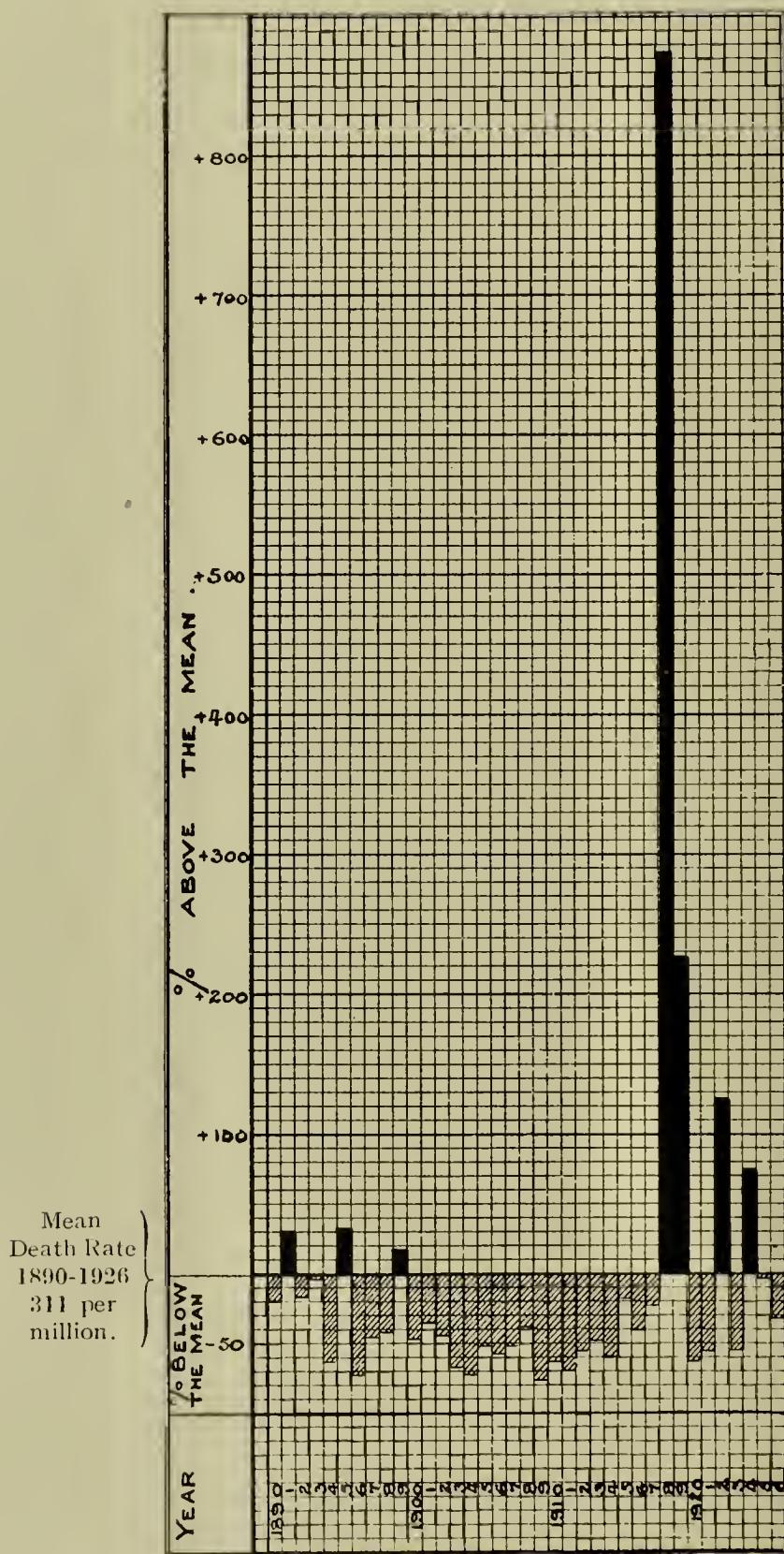
Bronchitis and Pneumonia.

These diseases amongst children under one year of age assist materially in raising the infant mortality rate, when inclement weather conditions prevail during the two winter quarters. A concurrent cold spring and hot August-September will thus bring about a high infant mortality rate ; the main factor is, however, summer diarrhoea. The average number of deaths in the two winter quarters for 15 years past is 89.1 More than 100 deaths were registered from bronchitis and pneumonia in infants in 1907-8, 1908-9, 1911-12, 1914-15, 1916-17 and 1918-19.

The effect of fatal intercurrent epidemics, such as measles, must also be taken into account as adding to the infant mortality.

Diagram 13.

Influenza.



This diagram accentuates the terrible visitation of 1918-1919, the most severe outbreak of communicable disease that has attacked Bristol since the cholera of 1849.

Table XIII.—Percentage to total deaths of infants under one year, 1905-1926.

	Bronchitis, Pneumonia and other diseases of respiratory organs (exclud- ing Phthisis and Influenza)	Diarrhoea and Enteritis	Measles	Whooping Cough
1905	18.8	11.0	2.4	4.4
1906	14.6	14.8	2.5	4.3
1907	16.4	11.5	0.6	1.8
1908	21.5	13.3	1.9	5.8
1909	13.8	13.9	3.1	3.4
1910	16.3	11.1	1.3	4.8
1911	12.3	28.3	2.3	5.7
1912	25.0	7.0	4.2	3.3
1913	13.3	18.4	1.2	2.7
1914	16.6	14.7	1.1	3.5
1915	18.2	15.6	1.7	6.4
1916	15.8	13.7	3.0	1.4
1917	26.3	9.6	—	2.6
1918	16.7	12.0	5.2	3.3
1919	18.2	7.7	—	3.8
1920	20.4	10.1	3.5	1.0
1921	15.0	15.0	0.5	4.4
1922	22.2	8.2	1.7	2.1
1923	16.5	11.8	0.4	6.6
1924	25.7	7.1	0.5	0.9
1925	18.9	12.9	6.7	5.1
1926	22.7	7.5	0.0	3.9

TUBERCULOSIS.

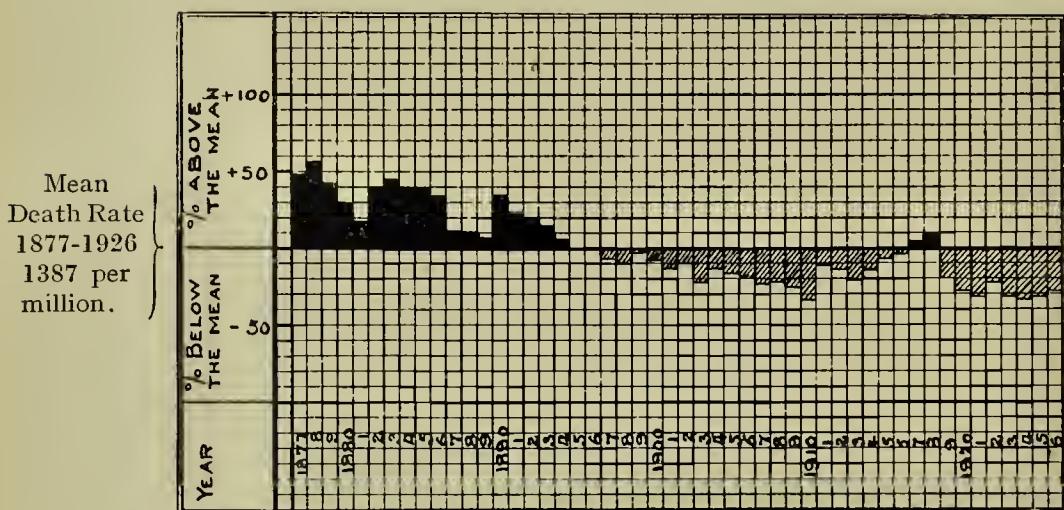
(See Tables 8 and 9).

At the end of the war the Council had provided 50 beds at Winsley for early cases of pulmonary phthisis and 52 beds at Ham Green; also hospital provision for late cases, 20 beds at Ham Green and 21 beds at Clift House. After the war the Committee again took up the question of non-pulmonary tuberculosis and surgical tuberculosis, delayed by the war. At Novers Hill, 36 cases of early tuberculosis conditions in children were admitted until November, 1920, when they were transferred to Snowden House, where 18 children were temporarily accommodated until October, 1921, on which date the institution was closed and the patients transferred to Frenchay Park Sanatorium.

Clift House Hospital, accommodating 21 advanced cases, was closed in September, 1921, and the patients transferred to Ham Green Sanatorium.

During the year 1923 the Committee completed arrangements with the United Services Fund for the admission to Heatherwood Hospital, Ascot, of children of ex-soldiers and Airmen, up to 12 years of age, suffering from surgical tuberculosis, the first case being admitted on 1st May. The maintenance charge is 25/- per week.

Diagram 14. Pulmonary Tuberculosis.



This diagram illustrates the steady decline in mortality from pulmonary tuberculosis during the last 30 years, which was interrupted only during the war years 1914-18, when foodstuffs were deficient in nutrimental value.

In April, 1923, Mr. Hubert Chitty, F.R.C.S., was appointed as Consulting Surgeon (part time) under the City Council's Tuberculosis Scheme.

Novers Hill (Wards B. and C.) was opened in June, 1926, for the treatment of early tuberculosis conditions in children, and is still in use (March) for that purpose.

The Council has approved of an arrangement for the provision of 60 beds for surgical tuberculosis in children, at Lord Mayor Treloar Cripples' Home at Alton and Hayling Island, and for 100 beds at Frenchay; both these schemes have been delayed by the Ministry on the plea of economy. Nine beds have been provided at Cossham Hospital for special adult surgical cases needing operative interference, and children are admitted for surgical treatment to the Orthopaedic Hospital, Redland, Bristol.

There are now 194 beds for consumption, in addition to Frenchay for children, and the Committee feel assured that a very large amount of beneficial work will be secured as soon as full facilities are available for dealing with the early manifestations of tuberculosis in childhood, upon which so much rests in the preventative treatment of this endemic disease.

For details of Sanatoria available for inpatient treatment and cases admitted in 1926, see Table 8.

Table XIV. New Cases and Mortality during 1926.

Particulars of new cases of tuberculosis and of deaths from the disease in the area during 1926.

Age periods	New Cases				Deaths			
	Pulmonary		Non-Pulmonary		Pulmonary		Non-Pulmonary	
	M.	F.	M.	F.	M.	F.	M.	F.
0	6	1	4	1	4	1	3	1
1	7	9	13	18	4	5	4	3
5	25	18	21	21	1	2	4	6
10	22	29	13	16	2	2	—	2
15	34	38	13	17	18	15	4	4
20	46	68	5	15	24	28	3	4
25	71	114	6	15	36	45	2	4
35	71	62	5	4	44	33	1	2
45	53	28	5	4	40	28	5	—
55	27	19	5	3	18	15	4	2
65 & upwards	7	1	1	—	8	1	1	1
<i>Totals</i> ...	369	387	91	114	199	175	31	29
Ratio of non-notified deaths ...					1-18	1-16	1-4	1-9

The regulations regarding notification are fairly generally observed. In cases where notification has not been made it is usually found that the practitioner has been under the impression that the case has already been notified by a previous medical attendant.

Report by the Tuberculosis Officer, 1926.

Public Health (Prevention of Tuberculosis) Regulations, 1925.

No notices have up to the present been served under Article 5 of these Regulations.

Public Health Act, 1925, Section 62.

No action yet been taken under this section.

Bristol Municipal Tuberculosis Dispensaries.

19 Portland Square.

4 Redcliffe Parade West.

Officers : Tuberculosis Officer and 1 Assistant Tuberculosis Officer, 2 Clinic Nurses. (The home visiting of cases is done by Health Visiting Staff), 1 Laboratory Attendant and X-ray Operator, 1 part-time Dispenser, and 6 Clerks.

Total patients treated, 3,447.

Total attendances, 14,667.

Total number of re-examinations, 2,615.

New Cases Examined.

(Exclusive of cases transferred from other areas).

	Adults.			Children.		Total
		M.	F.	M.	F.	
Pulmonary Tuberculosis	... 232	270		48	51	601
Non-Pulmonary Tuberculosis	10	24		27	21	82
Doubtfully Tuberculous	... 16	24		45	35	120
Non-Tuberculous	... 106	187		130	137	560
 Total	... 364	505		250	244	1363

Total attendances of school children	...					4,809
X-ray examinations	...	...	...	...	...	588
Sputum examinations	...	...	...	...	...	881
Total injections	...	...	...	...	...	953
Artificial Pneumothorax	...	...	...	...	...	108
No. of visits (domiciliary) by Tuberculosis Officers	...					658
No. of visits to patients by Tuberculosis Nurses and Health Visitors	...	...	...	...	...	12,487
No. of cases seen by Consulting Surgeon	...	...				110
No. of attendances of cases seen by Consulting Surgeon						201
No. of attendances for Ultra-Violet light treatment						349

It will be seen from above figures that although the total number of patients examined and re-examined at the Dispensary has increased, the number of attendances has decreased

by nearly 2,000. This is the result of carrying out the instructions of the Ministry of Health that routine treatment should not be given at the Dispensary, except to patients who cannot get medical attendance elsewhere. As time goes on, the total number of attendances should steadily decrease and the number of re-examinations increase.

The number of inductions and re-fills of Artificial Pneumothorax has greatly increased. In addition there have been 349 attendances at the Dispensary for treatment by Ultra-Violet light.

The results of sanatorium treatment are shown in Table 9.

C. J. CAMPBELL FAILL, F.R.C.P.Ed.,
Tuberculosis Officer.

J. S. CURRIE, M.B., Ch.B.,
Assistant Tuberculosis Officer.

VENEREAL DISEASES REGULATIONS, 1916.

(See Table 10.)

The Corporation have initiated the following scheme :—

A.—Treatment Centres.

Up to June, 1926, arrangements existed whereby the Committee of Management of the Bristol Royal Infirmary and the Bristol General Hospital each provide and maintain at their respective institutions in Bristol a Treatment Centre, for the diagnosis and treatment of venereal disease.

Treatment Centres open for treatment of men and women.

Bristol General Hospital—

Men : Monday, 6 p.m. Thursday, 6 p.m. Friday, 1.30 p.m.
Women : Monday, 6 p.m. Friday, 1.30 p.m.

Bristol Royal Infirmary—

Men : Tuesday, 6 p.m. Thursday, 12 noon. Friday, 6 p.m.
Women : Monday, 6 p.m. Wednesday, 6 p.m. Saturday,
1.30 p.m.

The General Hospital Clinics were closed on the 30th June, 1926, and transferred to the Bristol Royal Infirmary.

More adequate accommodation for the treatment of venereal disease is now being provided, and an agreement has been entered into with the Bristol Royal Infirmary and approved by the Ministry of Health for the equipment and maintenance of Guardian House, (premises adjoining the Royal Infirmary) which provides that the Infirmary shall maintain and staff at Guardian House a special out-patient department and facilities for 12 female in-patients and for not more than 6 male in-patients in their general wards.

The Infirmary is required to maintain, treat and nurse all such patients under their medical officer with two assistant medical officers and two clinical assistants, the appointment of such assistants to be subject to the approval of the Corporation and the Ministry. The Medical Officer is required to act as adviser in venereal disease matters to the Medical Officer of Health and to report to him, and further, to confer with and demonstrate to general practitioners as regards their patients.

The alterations and equipment of the premises are practically completed, and it is hoped the treatment centre will shortly be in use.

Dr. S. Hardy Kingston has been appointed (approved by the Ministry) to take charge of the Treatment Centre at the Bristol Royal Infirmary.

Arrangements are in force whereby medical practitioners resident in Bristol, or in agreed surrounding areas, may have free consultation, also for demonstrations to medical practitioners of the methods of diagnosis and of systematic treatment.

The Treatment Centres are conducted in accordance with the principles set forth in the Memorandum of the Medical Officer, appended to the Ministry's Circular of 13th July, 1926.

Paid clinical assistants are appointed in rotation at the clinics.

B.—Laboratory facilities.

Pathological examinations in respect of matters submitted by medical practitioners are undertaken by the University of Bristol in accordance with the Venereal Diseases Regulations, 1916, and a report is furnished by the Pathologist in charge of the University Laboratory (Professor Walker Hall) to each medical practitioner concerned. Medical practitioners submitted 799 specimens for examination during 1926.

C.—Supply of Salvarsan Substitutes.

The Corporation supply through the Medical Officer of Health approved substitutes for salvarsan to the Infirmary for use at the Treatment Centre, and also distribute these drugs to 22 registered medical practitioners practising in the City and County of Bristol, whose qualifications are duly certified as satisfactory by the Medical Officer of the Treatment Centre.

D.—Facilities provided by the Board of Guardians.

Six beds for male cases are provided at the Eastville Institution. All female cases are transferred for treatment to the London Lock Hospital.

E.—Port facilities.

The Port of Bristol comprises three widely scattered docks : Bristol Docks—in the City itself.

Avonmouth Docks—5 miles distant—accessible by road and rail.

Portishead Docks—12 miles distant—accessible by road and rail.

Notices in handbill form are posted through the Docks advising the provision of free treatment for all, and giving the times and places of the Venereal Disease Clinics at the Bristol Institutions.

Seafaring men who attend the Clinics are given continuation books and are also given a list of the Clinics available at other ports at home and abroad.

The question of providing special local facilities for treatment at Avonmouth Dock has not yet been decided.

F.—Propaganda Work.

A Committee has been formed in conformity with the suggestion in Para. 8, V.D. Circular, 13th July, 1916, for the purpose of disseminating information and for making suggestions to the Council, containing representatives of various workers and local Bodies concerned in the prevention and treatment of these diseases, including suitable women and a representative of the local Medical Committee ; members of Bristol Health Committee and the Medical Officer of Health are included.

The activities of this Committee comprise educational propaganda and lectures to social workers, mothers' schools, etc., by a panel of local speakers, medical and lay. 36 meetings were addressed during the year.

MATERNITY AND CHILD WELFARE.

Report by the Medical Officer in charge, 1926.

1.—Supervision of Midwives.

There has been no alteration in the arrangements for supervision over those of 1925, and the officers employed are the same.

Each midwife in private practice is visited at her house at least four times a year when her register, bag, instruments, etc., are inspected; these visits are purposely surprise visits, as a visit by appointment would mean finding everything in order for inspection. Other visits, in addition to the routine quarterly visit, are made as occasion warrants.

The number of midwives in private practice in the City in 1926 were as follows :

Midwives by examination	...	50
Bona-fide midwives	...	13
Total	...	63

2.—Ante-Natal Work.

The number of municipal ante-natal clinics is now 7, two having been added in 1926 at Two Mile Hill and Horfield. Arrangements for use by the municipality of the ante-natal clinics at Bristol Royal Infirmary and Bristol General Hospital are still under consideration. The total number of ante and post natal patients attending them and the average attendance per session is as below :—

No. of attendances, 1926.	Average per session.
7,121	18.07

Medical attendance at the municipal clinics is in the hands of specially qualified part-time lady doctors ; assistance is given by the health visiting staff.

A certain amount of ante natal visiting is done by the Health Visitors.

3.—Natal.

Beds for complicated cases.

Special provision for these has been made by the Bristol Royal Infirmary and Bristol General Hospital.

Beds for normal Cases.

In consideration of a grant, the Maternity and Child Welfare Committee has a right of admission, free of charge, to the Brunswick Maternity Hospital of 25 cases per annum, and the

use of one bed for six months per annum at the Bristol Maternity Hospital, Southwell Street. This provision is for normal cases where confinement at home is for any reason considered undesirable.

Total maternity beds.

The number of maternity beds at present available in the City is 127, distributed as follows :—

Bristol Royal Infirmary ...	(Married & unmarried)	24
Bristol General Hospital	do.	12 to 18
Brunswick Maternity Hospital	{ Married only	19
	Isolation	2
Bristol Maternity Hospital, Southwell Street	{ Married	24
	Unmarried	4
	Isolation	1
Grove House Home ...	{ Unmarried	12
	Isolation	1
Southmead (Guardians) ...	{ Married & unmarried	22
	Isolation	6
	<i>Total</i> ...	<hr/> 127 <hr/>

Applications for assistance at confinement in 1926 were 26 as compared with 40 in 1925. Of these 26, 16 were for maternity beds, and 10 for payment of midwife's fee.

4.—Post Natal.

Treatment of troubles arising after parturition.

No special arrangement has so far been made for hospital treatment of post-natal trouble in mother or infant ; cases coming to our knowledge are referred to one or other of the public institutions.

Mothers attending the ante-natal clinics are advised to report at the clinic after their confinement for observation and advice, and a considerable number do so.

**The Public Health (Notification of Puerperal Fever and
Puerperal Pyrexia) Regulations, 1926.**

The above Regulations came into force on 1st October, 1926. The medical practitioners were informed by letter of their duty under these Regulations, and a scheme for provision of hospital treatment for such cases, nursing, and other forms of assistance for which notifying medical men may ask, has been formulated and sent to the Ministry for approval.

Table XV.—Puerperal Fever.

Year	Cases Notified	Removed to Hospital	Deaths	Cases from outside City
1921	32	26	6	—
1922	22	16	8	—
1923	25	17	7	2
1924	43	34	13	4
1925	64	59	30	10
1926	29	26	10	3

From the above it appears that the number of cases in 1926 is much below the average for the preceding 5 years which is 37.2. The deaths are also below the average which is 12.8.

Puerperal Pyrexia.

The cases of puerperal pyrexia notified to the end of 1926 were 20. This appears a small number which will probably increase considerably when the doctors know that the forms of help mentioned in the Regulations can be obtained. Up to the end of the year arrangements for this help had not been completed.

Clinics and Treatment Centres.

A list of municipal clinics and treatment centres in the City including hospitals provided or subsidised by the Local Authority, voluntary schools for mothers and societies affiliated to the Bristol Infant Welfare Association and Council of Schools for Mothers, institutional provision for unmarried mothers, illegitimate infants and homeless children is given in Table 13.

Centres.

There are no municipal maternity centres, their place being taken by the 22 Schools for Mothers conducted under the Regulations of the Bristol Infant Welfare Association and Council of Schools for Mothers, which provide *inter alia* for infant consultations by a properly qualified medical officer, and that lectures, etc., are given by doctors or qualified nurses. These 22 schools are carried on in close co-operation with the Maternity and Child Welfare Committee, and are scattered over the City, being thus much more accessible and useful than one large maternity centre. The Council makes a grant to this Association of £1,200 per annum, and the City reaps great benefit from its activities.

Attendance at these Schools, 1926.

Mothers	Children under 1 year	Children over 1 year
3,267	1,618	2,083

Moorfields Infant Clinic (Minor Ailment Centre, Municipal).

This clinic is situated at Moorfields in a poor district at a considerable distance from any public institution.

It is open to any parent to bring a child under 5 years of age to see the doctor on session days, and the clinic is open every day under the care of one of the Health Visitors for dressings, etc. That it supplies a want and does good work is undoubted.

The following table shows the work of the clinic in 1926 :—

Patients			Average attendance per session.	No. of dressings	No. of cases visited at home	Cases referred to Dr. or Institution
New 889	Old 1,499	Total 2,388	25.13	3,701	404	76

Further provision for treatment of Child Ailments.

By arrangement with the school medical service, cases of the following ailments in children under five can be referred to the School Clinics for treatment when no other treatment is being obtained :—

Eye trouble (squint, etc.)
Rickets.

Infantile paralysis and other crippling diseases.
Rheumatism.

The cases so referred in 1926 were—76 ; Eyes, 39 ; Rickets, 37.

The School Medical Officers are pleased to be able to treat such cases in their early stages when improvement is more possible, rather than on their entry to school at a later stage when success is more difficult and education is interfered with.

Nursery School.

The first Nursery School for toddlers was opened in 1925 in Rosemary Street, in connection with the Bristol Infant Welfare Association. It has been approved by the Board of Education for grant. It commenced with 12 children, now increased to 30, all in poor physical condition, but improving under their new and better conditions.

Milk Grants.

Grants of milk are made under the provision of Circular 185 of the Ministry of Health dated 31st March, 1921. These grants are free and are made only in cases where careful enquiry into family income, confirmed by employers when the applicant is in work, shows the family to be necessitous according to an income scale approved by the Ministry.

GRANTS.				Total	Cost of Milk Orders
Expectant Mothers	Nursing Mothers	Children under 3 years	Children between 3—5 years		
508	1,753	5,361	109	7,731	£2,466 12 10

The Health Visitors report that the recipients derive much benefit to health from this source.

Public Health (Ophthalmia Neonatorum) Regulations, 1926.

The above Regulations came into operation on 1st October, 1926. Medical practitioners were informed of their duty under these Regulations, and all midwives who had sent notice of intention to practise in the City were also informed of the effect of the Regulations, special stress being laid upon their duty to call in medical assistance in any case of inflammation or of discharge from the eyes of an infant, however slight.

Cases were visited by a Health Visitor on the day of receipt of notification, as in former years, with the object of securing proper attention by a doctor or institution, and cases were kept under observation to see that prescribed treatment was carried out.

The notifications of the above disease during 1926 number 48. The following table gives particulars of notified cases during the last five years :—

Table XVI.—*Ophthalmia Neonatorum.*

	Notifications	Recovered.	Death before recovery	Result unknown	Blind both eyes	Blind one eye	Lesser injury to sight	Live births notified	Cases per 1,000 live births
1922	119	111	2	2	nil	nil	4	7,590	15.7
1923	82	77	1	1	nil	nil	3	7,420	11.3
1924	89	87	1	nil	nil	nil	1	7,098	12.5
1925	58	55	2	nil	nil	1	nil	6,931	8.3
1926	48	41	1	4	2*	nil	nil	6,828	7.02

* These were 2 cases admitted to hospital for treatment from outside the City.

The above figures show a practically continuous reduction in the case rate per 1,000 births for which the reason is not apparent, though the result is satisfactory.

Eye Cases other than Ophthalmia Neonatorum.

Similar care and attention is observed in less serious eye cases reported by midwives or discovered by the District Health Visitors, and free issues of boracic crystals and cotton wool swabs are supplied where required. During 1926 the number of such cases dealt with was 397, involving 1,891 visits.

Dental Treatment.

Dental treatment for expectant and nursing mothers and children up to 5 years of age has been arranged for with the Bristol Education Committee, and the Ministry has sanctioned the use of the School Dental Clinics for this purpose. The importance and value of this work is undoubted.

Particulars of treatment are given in the following Table :—

No. of applications in 1926 : 353.

	Expect- ant Mothers	Nurs- ing Mothers	In- fants.	Ex- trac- tions	Anaes- sthe- tics	Fill- ings	Dress- ings	Other operations
Cases seen by dentist	32	83	148	776	Local 86 Gas 134	4	12	3
No. of cases treated	26	75	124					
Dentures supplied	45	—	—					

Total Cost.

The total cost to the Council (including £103 7s. 1½d. for dentures) amounted to £173 15s. 1½d.

Lactation establishment (Truby King Work).

The time of the Health Visitor responsible for the carrying out of this work is now fully occupied in dealing with cases where increase or re-establishment of the supply of breast milk is desirable, and the feeding and management of weakly children. This highly skilled work necessitates lengthy visits with actual demonstrations of the methods for the increase or re-establishment, and frequently for the proper mode of preparing the infants' feeds. The cases so visited are scattered all over the city. Considerable time is also occupied by the giving of test feeds at the office, these being necessary to see whether a child is being under or over-fed.

Application has been made to the Ministry for sanction to provide a clinic at the office and to arrange for medical supervision.

By arrangement with the Infant Welfare Association, this Health Visitor gives lectures at all the Schools for Mothers in turn.

Several Schools have expressed warm appreciation of the services thus rendered, and the results obtained from the work of this specially trained Health Visitor are highly satisfactory.

Health Visiting Staff

Towards the middle of the year in consequence of diminution in the number of maternity and child welfare visits which were being paid, due partly to the recent addition of tuberculosis visiting with some attendances at tuberculosis clinics to the work of the district health visitors and, partly, to increased ante-natal clinic attendances, due to the opening of new clinics, it became evident that the question of some increase in the number of district health visitors (21) would have to be considered. Another point bearing strongly on this matter is the alteration in the character of some of the original districts in which large housing estates have now been laid out; these districts have become unworkable, and a revision of the City involving an increase in the number of districts appears unavoidable if the work is to be reasonably coped with.

New work thrown on the section by the Midwives and Maternity Homes Act, 1926, and by the Puerperal Fever and Puerperal Pyrexia Regulations, and Ophthalmia Neonatorum Regulations, 1926, rendered the question of the staffing of the Maternity and Child Welfare section still more pressing, and a report upon the whole matter outlining the staff required, the number of districts into which the City should be divided, and providing for the new work, was presented in the autumn, passed by the City Council, and referred to the Ministry for sanction. Certain amendments made by the Ministry are still under the consideration by the Health Committee.

Midwives and Maternity Homes Act, 1926.

The above Act amends the Midwives Acts 1902 to 1918 in certain important respects and also provides for the registration and inspection of Maternity Homes.

That portion of the Act relating to the amendments to the Midwives Acts came into operation as from 4th August, 1926, and all practising midwives in this area have been informed of these amendments.

The portion of the Act dealing with the registration and inspection of Maternity Homes comes into operation on January 1st, 1927, and due notice of the necessity for registration has been given in the public press. Arrangements have been made for the necessary inspection of these Homes, and the Medical Officer in charge of the Maternity and Child Welfare Section, together with the Deputy Inspector of Midwives have been appointed the Officers of the Council duly authorised for this purpose under Clause 9 of the Act.

Statistics, 1926.

1. Midwives Act, 1902.

(a) Midwives.

Midwives practising in City	118
,, with training qualifications	105
,, without training qualifications	13
,, in private practice	63
,, attached to Institutions, Homes, etc. ...	55
Notices of temporary practice	5

(b) Supervision.

Midwives inspected	63
Routine inspections	191
Unsatisfactory conditions reported	—
Failure to send in C.M.B. forms	6
Midwives interviewed and warned by Medical Inspector	—
Midwives interviewed and warned by Local Super- vising Authority	1
Midwives reported to Central Midwives Board ...	—

(c) Cases attended by Midwives.

Births (including 199 stillbirths)	5,193
Percentage to total births notified	73.7
Ophthalmia Neonatorum occurring in Midwives practice	39
Percentage to total cases notified	80.8

(d) C.M.B. Forms received.

Form A (Medical Help)	1,268
,, B (Deaths)	36
,, C (Stillbirths)	74
,, D (Laying out the Dead)	8
,, E (Liability of Infection)	8
,, F (Artificial Feeding)	80

(e) Unqualified practice.

Cases investigated	2
No action taken	1
Referred to Town Clerk	1

2. Midwives Act, 1918.

Claims for Medical Fees	200
---------------------------------	-----

3. Notification of Births Acts, 1907 and 1915.

Live births notified	6,828
Stillbirths	258
	—
	7,086
Notified by Doctors	1,245
,, Midwives	5,193
,, Relatives	648
Born living 3,527 males, 3,301 females.	
,, dead 138 ,, 120 ,,	

4. Home Visits by Health Visiting Staff.

First visits to notified births	...	...	...	6,376
Revisits	...	...	...	49,133
Stillbirths	...	...	...	226
Ante-Natal	...	...	...	1,189
Visits to Tuberculosis Patients	...	...	...	12,419
Other visits	...	...	...	13,488
			<i>Total...</i>	<i>... 82,831</i>

5. Case Records transferred to S.M.O. 5,000

6. Assistance Grants.

Medical Fees under Midwives Act, 1918	...	...	200
Provision of Maternity Beds	...	...	16
Provision of Midwife	...	...	10

JOHN C. HEAVEN, L.R.C.P., M.R.C.S., D.P.H.

Medical Officer i/c Maternity & Child Welfare.

D. S. DAVIES, M.D.,

Medical Officer of Health.

HAM GREEN HOSPITAL.

Report by the Resident Medical Officer, 1926.

Admissions and Discharges.

	Remaining in Hospital end of 1925	Admissions as notified	Recovered	Died	Mortality Case Rate per cent.	Remaining in Hospital end of 1926
Scarlet Fever ...	83	515	504	1	0.2	56
Diphtheria ...	58	658	516	33	6.0	63
Enteric Fever ...	0	2	1	0	0	1
Measles ...	0	5	5	0	0	0
Mixed Infections and other diseases and observation cases...	9	18	157	5	3.0	6
	150	1198	1183	39		126

Scarlet Fever.

Only one death occurred from scarlet fever out of 515 admissions. This is a reduction to 0.2 per cent. from 3 per cent. last year. A fair number of severe cases were admitted, but were rapidly improved by the administration of the recently introduced scarlet fever anti-toxin. I think our very favourable mortality rate is to be accounted for by the use of this new antitoxin.

Eight cases discharged apparently carried the infection home out of 522 cases discharged. This gives a return case rate of 1.5 per cent.

Diphtheria.

This disease was slightly less virulent than in recent years, causing a case mortality rate of 6.0 per cent. compared with 7.5 per cent. last year.

Cross Infection.

Nine cases contracted a new disease while in hospital out of 1,198 admissions. This gives a cross infection rate of 0.7 per cent.

B. A. I. PETERS, M.D., D.P.H.,

Resident Medical Officer.

NOTE.—Dr. Peters reports on the Schick methods for preventing Diphtheria amongst the staff at the Hospital and on the Dick test for scarlet fever are printed on pages 10-12.

NOVERS HILL HOSPITAL.

Visiting Medical Officer's Report for 1926.

Scarlet Fever.

Cases remaining from 1925	...	...	31
Admitted during 1926	...	...	95
Deaths	...	...	2
Discharged cured	...	...	115
Transferred to Ham Green	...	...	9

Average age : F. 9.9; M. 7.4.

Average time in hospital, 33 days.

Complications—

			<i>Other Diseases—</i>
Adenitis	...	1	Diphtheria K.L.B. ... 1
Nephritis	...	3	Impetigo ... 1
Endocarditis	...	2	Heart disease not S.F.... 7
Pneumonia	...	1	Septicaemia ... 2
Otorrhoea	...	3	Chicken Pox ... 1

Cases not S.F., 6 S.F. doubtful, 3.

The hospital was closed down May 25th, 1926, for cleaning and repairs and opened again June 7th, 1926 for tuberculosis.

Swabs were taken from all patients, one showed positive K.L.B., 44.2% showed Hoffman.

Novers Hill Sanatorium.

Cases admitted in 1926	...	...	55
Discharged	...	...	26
Remaining in hospital	...	...	29
Average age of patient,	8.7 years.		

Summary of Cases.

Positive signs of T.B. but in a quiescent stage	20
Active disease	...
...	...
No physical signs	20
Bronchitis	...
...	...
Peritonitis	5
Average time in sanatorium,	99 days.

The patients come in—as might be expected—in a very poor anaemic condition, more I think from want of feeding and proper attention rather than suffering actually from T.B.

There is no question about the sanatorium doing good, the patients soon look well and gain in weight, so it follows that if the patient is not actually suffering from T.B. it gives him a chance of warding it off.

I have no specific line of treatment, and hardly ever use drugs but rely mainly on good feeding, graduated exercise and regular rest time.

Peritonitis.

I have very grave doubts whether they are all T.B. I think that at least 50% are simply gastric disturbances.

E. H. CHURTON PAULI,

Visiting Medical Officer.

AMBULANCE FACILITIES.

(a) For infectious cases.—3 motor ambulances maintained by Bristol Corporation.

(b) For non-infectious and accident cases.—7 motor ambulances (stretcher) by Bristol City and Marine Ambulance Corps ; 6 motor ambulances (stretcher) by St. John Ambulance.

Various large firms in the City have their own private ambulances for emergency cases.

REPORT BY THE CHIEF SANITARY INSPECTOR.

1926.

Bakehouses.

There were 238 bakehouses in the City at the end of the year. The District Sanitary Inspectors regularly visit these bakehouses in order to see that they are kept clean, and that lime-washing is carried out. 646 inspections were made during the year, and 120 notices served in respect of overdue limewashing and general sanitary defects.

Premises where Foods are Manufactured, Prepared, Stored, or Exposed for Sale.

Periodical visits to these premises are made by the District Sanitary Inspectors, and satisfactory improvements have been effected in several instances.

Meat Inspection.

For this purpose the City is divided into three districts, to which qualified Meat Inspectors are appointed. District Sanitary Inspectors who possess the Meat and Food Inspector's Certificate assist as occasion demands. The Meat Inspectors are responsible for the supervision of all meat slaughtered in private slaughterhouses in their districts, and that offered for sale in butchers' shops. They attend the meat markets on Friday evenings, Saturday afternoons and evenings, and, in addition to their routine duties, make special visits of inspection to butchers' shops during week-ends. 13,976 visits were made during the year, and 132 sanitary defects in connection with slaughterhouses were remedied. The amount of meat found diseased, unsound, or unfit for human food during the year was 31 tons, 13 cwts., 1 qr., 17 lbs. This meat was destroyed under supervision, at a local manure works. 2,933 packages of fish, 419 of fruit, and 86 of vegetables, 363 rabbits, 1 turkey, 11 fowls, 9 ducks, and 715 imported eggs were also destroyed. Bye-laws for slaughter-houses were drafted and received the approval of the Ministry of Health on 24th July, 1925. These bye-laws provide for the use of a mechanical killer for larger animals, and the instrument is now in general use in the City.

Slaughter-houses in Bristol.

	In 1920	In Jan. 1925	In Dec. 1926
Registered	52	49	49
Licenced	30	33	33
Knackers' yards	2	3	2
Foreign animal slaughter-houses belonging to the Bristol Docks Committee			
Total	86	87	86

Public Health (Meat) Regulations, 1924.

The carrying out of these regulations has been generally observed by the occupiers of private slaughter-houses. Notification of slaughtering has been made regularly, but difficulty has arisen on account of Sunday slaughtering. There are no street stalls where meat is sold, but a number of butchers purvey meat from motor vans. The question of the provision of a Public Abattoir is still under consideration.

Milk and Milk Supplies.

During the year 1926, 147 samples of milk have been taken, an increase of 6 over the preceding year.

	Samples.		
For tuberculosis examination	50
,, ,, ,, repeats	4
Certified milk	24
Grade A (tuberculin tested)	16
Grade A	27
Pasteurised	25
Category	1

The 50 samples of milk examined for Tuberculosis were taken from—

	Positive T.B.	
City producers	3	—
Somersetshire do. ...	31	2
Gloucestershire do. ...	16	1

3 positive results were obtained giving 6% with T.B.

In regard to two of the positive results, the producers' farms were visited with the City Veterinary Inspector, the cows were examined and four samples of milk taken from four suspicious cows.

Samples which gave a positive result were reported to the County Medical Officer of Health. The preliminary reports

of 6 of these 50 samples of milk gave dirt, pus, etc., as excessive in amount, and were duly reported to the County Authorities.

24 Samples of Certified Milk received from Dorchester, Wincanton, Melksham, and Saltford, were taken under instructions from the Ministry of Health, and submitted to the City Analyst. The bacteria count in one of the producer's milk did not exceed 100 per cubic centimetre, but another producer's milk gave counts varying from 170 bacteria per c.c. to 2,152,000 per c.c. 9 of the 24 samples of milk submitted gave bacillus coli present in 1/10 of a cubic centimetre.

To comply with the requirements of the Milk (Special Designations) Order, 1923, the milk at anytime before delivery to the consumer must not contain B. Coli in 1/10 c.c., and must not contain more than 30,000 bacteria per c.c.

The 16 samples of Grade "A" (tuberculin tested) milk gave bacteria counts from 40 per c.c. to 80,000 per c.c. With three exceptions no B. Coli was found in 1/100 c.c. To comply with the requirements of the Milk (Special Designations) Order, 1923, the milk must not contain Bacillus Coli in 1/100 c.c., and must not contain more than 200,000 bacteria per c.c.

Of the 27 samples of Grade "A" milk the lowest bacteria count was 140 per c.c., the highest 1,420,000. In 3 samples only was B. Coli found in 1/100 c.c. The requirements of the Milk (Special Designations) Order, 1923, as regards B. Coli and bacteria are the same as those applying to Grade "A" (tuberculin tested) milk.

The 25 Pasteurised samples of milk gave bacteria counts ranging from 320 per c.c. to 1,010,000 per c.c. 23 of these samples gave B. Coli in 1/10 c.c.

The Milk (Special Designations) Order, 1923, requires not more than 100,000 bacteria per c.c. No standard is laid down as regards Bacillus Coli.

The one Category sample of milk was taken from a distributor who had been debarred from receiving orders for milk grants from the Maternity and Child Welfare Committee. As the City Analyst placed his report of this sample in Category 3, this distributor was not recommended to have his name re-instated upon the list of dairymen who may receive orders for milk from the M. and C. W. Committee.

The City Analyst in his scheme for classifying milks in categories, brings these samples near to those examined under the Grading System as required by the Ministry of Health, so that

*Category 1—should satisfy the tests as applied for
"Certified Milk."*

Category 2—To comply with Grade "A" requirements.

Category 3—Sample which falls below category 2.

Licences for Graded Milks.

The following licences for the production and sale of Graded Milks in this City for the year 1926 have been issued by the Town Clerk :—

	No. of Licences
For the sale of Certified Milk	6
Bottling and sale of "Grade 'A' (Tuberculin tested)"	3
To sell " Grade ' A ' (Tuberculin tested) " ...	4
To produce and bottle Grade " A " Milk	2
To produce Grade "A" Milk	1
To sell Grade " A " Milk	2
Supplementary licences to sell Grade " A " Milk from premises outside the City	2
To produce Pasteurised Milk	4
To sell Pasteurised Milk	3
<i>Total</i>	27

Pasteurising Plants.

The Pasteurising Plant used by the four firms in this City, who hold licences for the production of Pasteurised Milk, are of the following size and make :—

Firm.	Positive Holder.	Capacity per hour Galls.
A	Enock's 8 drum	600
B	Silkeborg	350
C	Tarbet	350
D	Tarbet	125

Houses Let-in-Lodgings.

At the end of the year there were 322 registered houses let-in-lodgings or tenement houses in the City. 1,792 visits were made to these houses by the Inspector during the year, and 122 notices served in respect of sanitary defects. 273 notices were served in accordance with the bye-laws for

cleansing and limewashing. As the existing bye-laws with regard to houses let-in-lodgings are inadequate on account of the restricted low rental, the question of amending them is under consideration.

Common Lodging Houses.

There are 34 common lodging houses in the City, including one belonging to the Corporation, but excluding seamen's lodging houses.

There is a total accommodation for 1,598 persons, consisting of accommodation for 1,405 single male persons, 109 single females, and 84 men and women. The Municipal Lodging House has accommodation for 123 males, all lodged in separate cubicles.

In supervising these places, 1,078 visits were made. Two notices were served in respect of general disrepair, and 54 notices in respect of limewashing.

Tents, Vans, Sheds, etc.

A set of bye-laws framed from the model bye-laws of the Ministry of Health were adopted by the Council, and came into operation on July 21st, 1925.

Cleansing, Ashing, and Street Watering.

This work, formerly carried out by contract, was taken over by the Sanitary Committee in 1892, and has since been carried out by the City Engineer. No excremental matter is deposited on the tips, which receive household refuse.

Two Destructors are provided—one at Eastville and one at St. Philip's—which deal with house refuse, and it is proposed to provide an additional Destructor in the Bedminster district of the City. It is estimated that nearly one-half of the household refuse of the City is burnt, the remainder being tipped on low-lying ground in various parts of the City.

Closet Accommodation.

Four types of closets are in use in the City :—

- 1.—Pedestal pan and trap with flushing cistern.
- 2.—Cottage pan and siphon trap with or without flushing cistern.
- 3.—Glazed lining with 6-inch outlet and siphon without flushing cistern.
- 4.—Old brick trunk.

It was estimated in 1921 that there were 36,000 closets in the City without flushing appliances. Only a few of the old brick trunk type now remain, and when found, these are ordered to be converted. About one-half of the unflushed closets are of the glazed lining type, and the remainder the cottage pan and siphon trap type. A number of the former are situated outside the larger houses, which are also provided with closets having flushing cisterns.

Systematic conversion is proceeding when found inside houses, in houses which are occupied by more than one family, or during alterations to drains.

Workshops.

The number of workshops on the register at the end of 1926 was 1,686. 2,441 visits were made, and 209 notices served in respect of limewashing and general sanitary defects. 55 notices were received from H. M. Inspector of Factories relating to sanitary defects in factories and workshops. These notices have been dealt with, and in most cases the necessary work has been executed.

Homework. List of Outworkers received during 1926.

Nature of Employment.	No. of Outworkers	
	February.	August.
Boot and Shoe making ...	... 90	28
Paper Bag making ...	... 3	3
Making of wearing apparel	... 285	256
Totals	... 378	287

Upon the receipt of the lists of outworkers from the Town Clerk, the Workshop Inspector visits the premises as far as possible in conjunction with his work under the other provisions of the Factory and Workshop Act.

Offensive Trades.

There are 50 offensive trades in the City, other than fried fish shops. During the year, the trades of gut scraper and fat melter were declared to be offensive trades and added to the list, which now includes, in addition to the business of blood boiler, bone boiler, fellmonger, soap-boiler, tallow melter, and tripe boiler, that of blood drier, tanner, glue maker, fish frier, rag and bone dealer, animal charcoal manufacturer, fish curer, manufacturer of poultry meal, comprising fish refuse and other refuse of animal origin. Bye-laws governing these trades have been drafted, and will become operative when they have been approved by the Ministry of Health.

The Health Committee decided to issue annual consents for the establishment of offensive trades; and during the year consented to the establishment of six fish-frying businesses and one rag and bone dealer's business.

Smoke Abatement.

The nuisance from smoke is confined to a few chimneys which are mostly situated in or near the centre of the City. The District Sanitary Inspectors regularly take observations, and when undue emissions are noted the firms concerned are immediately advised, and if no improvement occurs, Statutory Notices are served.

Sanitary Inspection, Year 1926.

Complaints received and attended to	...	...	2,428
No. of visits and re-visits on account of nuisances, etc.	26,735		
,, Informal Notices	...	...	1,939
,, Formal Notices and Orders served	...	...	115
,, Prosecutions for non-compliance	...	...	9
,, other prosecutions	...	...	1
,, Articles disinfected	...	...	60,744
,, Articles destroyed	...	...	1,346
,, Houses disinfected	...	...	2,330
,, Visits to houses for infectious disease	...	...	2,398
,, Tests to drains	...	...	886

Summary of Work effected.

No. of drains re-laid	...	...	161
,, drains partially re-laid	...	...	418
,, sink troughs fixed	...	...	391
,, sinks, drains, etc., trapped	...	...	781
,, W.C.'s fitted with new pans and traps	...	...	460
,, repaired and cleansed	...	...	300
,, fitted with flushing appliances	...	...	354
,, Additional W.C. accommodation	...	...	22
,, Houses repaired	...	...	606
,, Roofs repaired	...	...	694
,, Yards, etc., paved, floors repaired	...	...	860
,, Rooms cleansed, papered, etc.	...	...	1,063
,, Passages, etc., cleansed, papered, etc.	...	...	252
,, Cesspools abolished	...	...	6
,, Offensive deposits removed	...	...	250
,, Manure pits or refuse bins provided	...	...	12
,, Pigs, etc., removed	...	...	3
,, Polluted wells closed	...	...	3
,, Houses supplied with Co's water	...	...	13
,, Overcrowding nuisances abated	...	...	30
,, Other nuisances abated	...	...	1,073
<hr/>			
Total	...	...	7,752

J. A. ROBINSON,

Chief Sanitary Inspector.

HOUSING.

Report by the Chief Housing Inspector, 1926.

Eugene Street Improvement Scheme.

The erection of the centre block of Flats at Eugene Street was completed during the year and the dwellings were occupied by families removed from the houses required to be demolished for the erection of another block of flats.

Formal Notices, Section 3 of the Housing Act, 1925.

The Housing Committee carried out works contained in Formal Notices, in default of owners, in respect of 31 houses, the expenses incurred amounting to £2,343, which sum is recoverable from the defaulting owners.

Police Court Proceedings.

During the year the owners and occupiers of the under-mentioned properties were prosecuted for letting and occupying the premises after the service of Closing Orders :—

26, Orange Street, St. Paul's. Tenant fined £2.

2 Sargents Buildings, New Cut. Owner fined £2 2s. Tenant vacated premises before case was heard.

The Housing Committee also applied for possession in the following instances :—

26 Orange Street, St. Paul's. Order made for possession in one month.

9 Stillhouse Lane, Bedminster. Ditto.

These premises were subsequently demolished.

Appeals.

The following appeals were dealt with :—

Appeal against Refusal to Determine Closing Order :—

6, Southville Place, Bedminster—Appeal upheld and Closing Order determined.

Appeal against Closing Orders :—

9, 11, 13, Monmouth Street, Bedminster—Appeal dismissed. Owner ordered to pay Minister's costs.

Appeal against Demolition Orders and Refusal to Determine Closing Orders :—

1 to 13, Albion Place, and 1 and 2, Nursery Lane, Kingsland Road—Appeal dismissed. No Order made with regard to costs.

Housing Act, 1925.—Synopsis.

Total No. of houses Repaired, 1919 to 1926—

Represented	714
Not Represented	442
	—

1,156

Represented as Unfit.

No. of houses outstanding end of 1918 ...	871
No. of houses Represented 1919 to 1926 ...	2536
	—
	3,407
No. of such houses repaired 1919 to 1926 ...	714
No. of such houses demolished „ „	561
(including 190 voluntarily after Closing Orders).	—
Total No. of such houses outstanding end of 1926	2,139

Closing Orders.

No. of Closing Orders outstanding end of 1918	174
No. of Closing Orders made 1919 to 1926 ...	1,050
	—
	1,224
No. of Closing Orders determined ...	149
No. of houses demolished voluntarily ...	190
No. of Demolition Orders made ...	595
	—
	934
Total No. of Closing Orders outstanding end of 1926	290

Demolition Orders.

No. of Demolition Orders outstanding end of 1918	24
No. of Demolition Orders made 1919 to 1926	595
	—
	619
No. of Demolition Orders Determined ...	83
No. of Demolition Orders carried into effect	335
	—
	418
Total No. of Demolition Orders outstanding end of 1926	201

Formal Notices. Sec. 3, of Housing Act, 1925.

No. of Formal Notices served 1919 to 1926...	266
No. of such notices complied with by owners	134
No. of such notices carried out by Corporation in default of owners	43
No. of such notices cancelled and Closing Orders made	16
No. of such notices cancelled	23
No. of Declarations to Close made by owners	7
	—
	223
Total No. of Formal Notices outstanding end of 1926	43

Work done during the Year 1926.

No. of visits by Housing of the Working Classes Sub-Committee	581
Total No. of houses repaired—	
By Statutory action	122
Without Statutory action ...	83
	<hr/>
No. of houses represented as unfit	205
No. of Formal Notices served under Sec. 3, of Housing Act, 1925 ...	392
No. of Formal Notices complied with—5 of 1926 ; 66 served previously	35
No. of Specifications served	71
No. of houses Closed under Order	174
No. of Closing Orders determined	75
No. of Closed houses demolished voluntarily	31
No. of Notices to Quit served	41
No. of Notices to Quit obeyed	133
No. of Demolition Orders made	88
No. of Demolition Orders determined ...	92
No. of Demolition Orders carried into effect	20
No. of houses inspected during 1926... ...	98
	<hr/>
No. of houses inspected during 1926... ...	392

Housing Statistics for the Year 1926.

(a) Number of New Houses erected during the year (including numbers given separately under (b))	2,276
(b) With State Assistance under the Housing Act :—	
(i) By Local Authority	1,256
(ii) By other bodies of persons	576

Unfit Dwelling Houses.

INSPECTION. Total No. of dwelling houses inspected for housing defects (under Housing Act) ...	392
(2) Number of dwelling houses which were inspected and recorded under Housing Consolidated Regulations, 1925	392
(3) No. of dwelling houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	392
(4) No. of dwelling houses (exclusive of those referred to under the preceding sub-head) found not to be in all respects reasonably fit for human habitation	nil.

Remedy of Defects without service of Formal Notices.

No. of defective dwelling houses rendered fit in consequence of informal action by the Local Authority or its Officers	83
--	----

Action under Statutory Powers.

PROCEEDINGS UNDER SECTION 3 OF THE HOUSING ACT, 1925.

1. No. of dwelling houses in respect of which notices were served requiring repairs	...	...	35
2. No. of dwelling houses rendered fit after service of Formal Notices :—			
(a) By owners, 4 of 1926, 36 served previously			40
(b) By Local Authority, 1 of 1926, 30 served previously	...	...	31
3. No. of dwelling houses in respect of which Closing Orders became operative in pursuance of declarations by owners of intention to close	...		nil.

PROCEEDINGS UNDER SECTIONS 11, 14, & 15 OF THE HOUSING ACT, 1925.

1. No. of Representations made with a view to the making of Closing Orders	...	...	392
2. No. of dwelling houses in respect of which Closing Orders were made	...	...	174
3. No. of dwelling houses in respect of which Closing Orders were determined, the dwelling houses having been rendered fit	...	...	31
4. No. of dwelling houses in respect of which Demolition Orders were made	...	...	92
No. of Demolition Orders determined, the dwelling houses having been rendered fit	...		20
5. No. of dwelling houses demolished in pursuance of Demolition Orders	...	...	98

NOTE.—The total no. of dwelling houses rendered fit for human habitation :

(a) Under Closing Orders	...	31
(b) Under Demolition Orders	...	20
	—	51

Particulars of (i) the action taken under the Housing Act, 1925, in regard to houses represented as unfit since 1918 ; (ii) summary of proceedings under Section 3, since 1919, and (iii) houses satisfactorily repaired under notice and orders since 1920, are given in Tables 14 and 15.

A. W. GRIFFITHS,
Chief Housing Inspector.

**PUBLIC HEALTH (MILK AND CREAM)
REGULATIONS, 1912 & 1917.**

Report by the Public Analyst and Bacteriologist.

1. Milk : and Cream not sold as Preserved Cream.	
(a) No. of samples examined	(b) No. in which a preservative was reported to be present, and percentage of preservative found in each sample.
Milk 719	3
Skim Milk ... 13	nil
Condensed Milk 6	nil
Cream... ... 16	4
Milk Powder 1	nil

Nature and Amount of Preservative found in Milk and Cream :

Samples undivided.	Action taken under the regulations in regard to it
Milk : .0015 per cent. Formaldehyde.	Taken for experimental purposes.
Cream : .11 „ „ Boric Acid.	Taken for experimental purposes.
Cream : .1 „ „ „ „	Taken for experimental purposes.
Samples divided.	
Milk : .0012 per cent. Formaldehyde.	Defendant ordered to pay £2 2s. costs.
Milk : .0045 „ „ „ „	Defendant fined 5/-.
Cream : .17 per cent. Boric Acid „ .05 „ „ „ „	Defendant fined £1. Defendant fined £1.

2. Cream sold as Preserved Cream ... 7	
(a) (1) Correct statement made ... 7	
(2) Statement incorrect ... 0	
<i>Total</i> ... 7	

Percentage of Preservative found :

.116%, trace, .04%, .1%, .116%, .053%, .11%.

Percentage stated on statutory label :
not exceeding .4%.

(b) Determination made of milk fat in cream sold as Preserved Cream :—	
(1) Above 35 per cent. 7	
(2) Below 35 per cent. —	
(c) nil.	
(d) nil.	

3. Thickening substances, nil.

4. Other observations, nil.

EDWARD RUSSELL, B.Sc., F.I.C.,
Public Analyst and Bacteriologist.

MENTAL DEFICIENCY ACT, 1913.

Report by the Supervising Officer, 1926.

The following gentlemen have been approved by the Local Authority for the purpose of giving certificates under the provisions of the above Act.

Dr. J. O. Symes, in all cases.

D. H. L. Ormerod, Westbury-on-Trym, in all cases of adults.

Dr. Newman Neild, all cases.

Dr. R. A. Askins, for all cases under the age of 16 years.

Dr. W. Cotton, for cases in H.M. Prison, Bristol.

In practice, Dr. J. O. Symes certifies in all cases with an additional certificate from Dr. Ormerod or Dr. Newman Neild.

The Certified Institutions in and about Bristol are :—

Stoke Park, Stapleton	...	...	750	beds.
Royal Victoria Home, Horfield	...		42	,
Beech House	...	...	90	,
Heath House	...	...	88	,
Hanham Hall	...	...	240	,
Leigh Court	...	...	260	,
Clevedon Hall, Clevedon	...		108	,

The above are for all cases under the Act and are divided into beds for 768 males and 960 females, certified for 1,578.

Brenty Certified Institution, Westbury-on-Trym, for males above the age of 18 years	...	...	230	beds
Chasefield Laundry Home, 874 Fishponds Road, for adult females	...	...	41	,
Southmead Institution, children only	...	...	100	,
Stapleton Poor Law Institution, all classes	...		225	,
Royal Fort Home, Bristol, approved Home, females	20			,

An Occupation Centre for employment of mentally defective boys and young men has been established at 15, Park Row, Bristol, and Centres for girls and women at Barton Hill, Mina Road, and Bedminster. Supervision and employment is provided by day for the patients, and they are returned to the care of their own people by night ; there are 80 defectives in attendance.

The Local Control Authority is at present making arrangements for a Colony to provide 608 beds at a site in Hortham Lane, Almondsbury. The site has been purchased, and plans have been prepared.

Supervising Officer, W. E. PRICE.

THE WEATHER OF 1926.

Report by H. H. Harding, Esq., F.R. Met. Soc.

Local Observations.

January.—The month and year opened with one of the heaviest day's rainfall of recent years, and more or less rain fell each day for the first week, accompanied by high temperatures. Six days of dry weather followed, during the early part of which the wind was Southerly and the conditions mild, but gradually the air current became more continental and frost set in on the 13th. One of the most wintry periods for several years followed, frequent snow and intense frost prevailing to the 18th when a slow thaw set in, and a day of continued rain on the 22nd brought the cold period to an end. From then onward, mild weather and daily rainfall prevailed to the close.

The total rainfall locally varied from 5.49 inches at Bishopston (St. Andrew's Park) to 4.61 inches at Frampton Cotterell, falling upon 25 and 24 days respectively. These totals show an excess of well over 2 inches. The heaviest days' rainfalls were 2.09 inches at Bishopston and 1.89 inches at Frampton Cotterell, on the 1st, and the number of rainy days 25 and 24.

Mean atmospheric pressure at 9 a.m. was 29.833 inches, a value much below the normal. The extremes recorded were 30.323 inches on the 13th, and 29.373 on the 29th ; the range of pressure being much less than that usually recorded at this season of the year.

The mean temperature was above the average, the figures being 40.4 degrees. Although this shows an excess of $1\frac{1}{2}$ degrees, the month was the coldest January since 1922 when the mean was 39.6 degrees. The extremes recorded were 52.8 degrees on the 10th, and 13.5 degrees on the 17th, while the warmest day was the 6th, with a mean of 48.8 degrees ; and the coldest the 17th, mean 23 degrees. Upon two occasions, the 14th and 16th, frost was recorded throughout the 24 hours. Frosty nights number 8. Snow fell upon three days but not heavily.

February.—Not once before during the present century and also for a good while into the past has this month been so consistently warm, and had its sunshine been more abundant it would altogether have been of a spring-like character. There were very few days when the temperature did not reach or exceed 50 degrees, and only upon one occasion did the thermometer record a night frost—a record for February as far as my experience goes. In other respects, however, apart from one or two beautiful days towards the close, conditions were not pleasant being generally overcast and damp with many small rainfalls.

The total rainfall locally was 2.06 inches at Frampton Cotterell and 2.27 inches at Bishopston, falling upon 19 and 16 days respectively. These values show a slight deficiency, while the total is nearly 2 inches below that of a year ago.

The wettest day was the 17th when the amounts at the two stations were 0.54 inch and 0.62 inch.

Mean atmospheric pressure was decidedly below the normal, the figures for 9 a.m. being 29.822 degrees. The extremes recorded were 30.576 inches upon the 28th and 29.229 inches upon the 2nd.

The mean temperature was 45.2 degrees, a value over five above the average. Since 1893 the only warmer winter months locally have been January in 1916 and 1921, with means of 46.1 degrees and 45.5 degrees; and December, 1918, mean 45.5 degrees. The warmest February previously recorded during this period was in 1903 when the mean was 45 degrees. The extremes for the month were 57.9 degrees on the 25th and 29.3 degrees on the 14th; and the warmest day, the 24th, with a mean temperature of 51.6 degrees, and the coldest, the 12th, mean 35.8 degrees. The maximum locally reached or exceeded 50 degrees on no less than 19 days, and only fell below 40 upon 12—a very remarkable record the the time of year.

March.—For the fourth year in succession this month brought very favourable weather. It is true up to well into the fourth week there were March winds in abundance, and these around the official opening of spring-time were cold and keen; but still this was all to the good for the drying winds after the rains of the winter were of inestimable value. Also the cold snaps with their high winds and frosty nights did much to keep a too forward vegetation in check. With all this, however, the close of the month found spring in full swing, and it is seldom that the countryside has shown so great a future promise.

The total rainfall locally varied from 0.85 inch at Bishopston, to 0.39 inch at Frampton Cotterell, falling upon 8 days. These falls were very similar to those of the month in 1925, and show a deficiency of about 2 inches.

Mean atmospheric pressure at 9 a.m. was 30.075 inches, a value well above the average, although much below that of 1925. The extremes recorded were 30.576 inches on the 11th and 29.428 inches on the 28th.

The mean temperature was 44 degrees, this being 2 above normal and 3 above that of the month a year ago. The warmest day was the 8th, with a mean temperature of 51.7 degrees, and the coldest the 22nd, mean 36 degrees. The extremes recorded were 57.8 degrees on the 6th, and 27.6 degrees on the 31st—the lowest temperature recorded since January 19th. There were 7 frosty nights.

April.—Beautiful spring weather marked the opening days, the third being a day of summer-like warmth. These conditions predominated to the close of the second week. After this, however, the month proved wet, cold, and sunless with frequent boisterous winds.

The total rainfall exceeded the average locally by about half-an-inch, the amount varying from 2.63 inches at Bishopston to 2.75 inches at Frampton Cotterell, falling upon 20 days.

The heaviest fall at Frampton Cotterell was 0.43 inch upon the 16th.

Mean atmospheric pressure was 29.865 inches, this value being very deficient. The extremes recorded at 9 a.m. were 30.298 inches on the 5th, and 29.322 inches on the 21st.

The mean temperature was very near the normal, the value being 48.2 degrees. The warmest day was the 3rd with a mean of 61.2 degrees and the coldest the 22nd, mean 42 degrees. The extremes recorded were 72 degrees on the 3rd and 29.4 degrees on the 13th—showing a range of 42.6 degrees. There were 4 frosty nights.

May.—A cold and most unseasonable month. It is true the opening day was warm, but it was also dull, wet and windy, and was followed by so long a succession of cold days that it was not until the 21st that another day of average warmth for the time of year occurred. During this long cold period ground frosts were frequent and on three occasions frost was registered by the protected thermometer. Although seasonable warmth prevailed after the 21st, the weather generally continued sunless and unsettled, and heavy thunderstorms were experienced locally during the afternoons of the 23rd and 30th.

The total rainfall at Bishopston was 4.01 inches and at Frampton Cotterell 3.41 inches, falling upon 19 and 21 days respectively; while the heaviest falls were 1.56 inches and 0.71 inch on the 23rd. The fall of the 23rd in some parts of the City took the form of a cloud burst. The total for the month exceeds the normal by about 12 inches, but is well below that recorded in either of the two preceding years.

The mean pressure at 9 a.m. was 29.877 inches, a value much below the average, but above that of the month in 1925 or 1924. The extremes recorded were 30.111 inches on the 25th, and 29.542 inches on the 30th.

The mean temperature was 57.9 degrees, this being over one and a half below normal. The warmest day was the 26th with a mean temperature of 62.5 degrees, and the coldest the 16th, mean 42.4 degrees. The extremes recorded were 74.8 degrees on the 26th, and 29.7 degrees on the 16th, showing an extreme range of 45.1 degrees. The 16th proved the coldest May day experienced locally since the 1st in 1922, when the mean was 42.2 degrees. There were three frosty nights, making since January 1st a total of 23.

June.—Upon the whole the first week was fine and sunny, while brilliant summer weather prevailed from the 19th to the close. In between these two periods, however, rough, wet and most unsettled conditions prevailed.

The total rainfall locally varied from 1.86 inches at Bishopston to 1.58 inches at Frampton Cotterell, falling upon 12 and 13 days. The heaviest falls respectively were 0.61 inch and 0.43 inch on the 17th. The totals for the month show a deficiency locally of three-quarters of an inch. In this connection it is interesting to note that of late years, June has been consistently dry, for since 1912 (which wet and inclement

year contained the wettest June of the century), there have only been four with rainfalls above the average, and in one of these, 1924, there were only three days with rain after the 12th.

The mean pressure at 9.0 a.m. locally was 29.913 inches, this value being decidedly deficient. The extremes recorded were 30.382 inches on the 25th, and 29.360 inches on the 12th.

Mean temperature was very low, the value of 56.9 degrees, showing a deficiency of nearly $2\frac{1}{2}$ degrees. The extremes recorded were 74.2 degrees on the 30th, and 39.5 degrees on the 25th—an extreme range of 34.7 degrees. The warmest day was the 21st with a mean temperature of 63.3 degrees, and the coldest the 24th, mean 24 degrees. A very remarkable fact of the year to date was that there have only been three days with a mean temperature above that of April 3rd, a date upon which there have been considerable snowfalls twice locally within the past decade.

July.—Upon the whole this month was of a very favourable character, opening and closing with warm and sunny days, giving during its middle portion a period of heat greater than anything experienced locally since July, 1923. This warmth resulted on the 18th in one of the greatest and most destructive thunderstorms of recent years, this affecting the districts to the south and west of our city; our immediate neighbourhood, however, almost entirely escaping except as a spectator of a wonderful display of nature's powers. Following this storm came a succession of rainy days, but by the close of the month settled weather had again set in.

The total rainfall locally was somewhat deficient and varied from 2.56 inches at Bishopston, to 2.33 inches at Frampton Cotterell; falling upon 19 and 17 days. The heaviest falls respectively were 0.59 inch on the 24th, and 0.55 inch on the 5th.

Mean atmospheric pressure at 9 a.m. was 30.026 inches, a value slightly above the average. The daily values ranged from a maximum of 30.512 inches on the 31st, to a minimum of 29.594 inches on the 19th.

The mean temperature of the month was 62.8 degrees, this showing an excess of about three-quarters. The warmest day was the 12th, with a mean temperature of 72.4 degrees; and the coldest the 27th, mean 52.3 degrees. The extremes recorded are 83.9 degrees on the 14th, and 39.8 degrees on the 27th—showing a range of 44.1 degrees. There were 14 bright sunny days, a larger number than that of any July since 1921 when 16 were recorded.

August.—The month opened with several fine and rainless days so that the year can boast of providing three of the finest and driest Bank Holidays on record. With the 6th however, conditions became somewhat unsettled, and apart from a few days just before the close more or less rain fell almost daily. At the same time the quantities were as a rule small and there were many bright and summerlike days.

The total rainfall at Frampton Cotterell was 2.43 inches and at Bishopston, 2.76 inches, and the number of rainy days, 17.

The heaviest fall in 24 hours occurred on the 9th, when the fall at the former station was 0.78 inch. The amount shows a deficiency for the month of an inch, and it proves the driest August since 1921, when the total was 3.26 inches at Bishopston. At Kew the fall was the smallest recorded for the month since 1899.

Mean atmospheric pressure was well above the normal, the figures at 9 a.m. being 30.053 inches. The extremes recorded were 30.380 inches on the 27th, and 29.721 inches on the 21st.

The mean temperature was half-a-degree above the average the figures being 61.5 degrees. The warmest day was the 24th, with a mean temperature of 67.1 degrees, and the coldest the 27th, mean 55 degrees. The maximum recorded was 76.8 degrees on the 30th, and the minimum 41.1 degrees on the 27th, showing an extreme range of 34.7 degrees. Thunderstorms occurred locally on the 11th, 18th, and 30th, but were in no instance severe.

September.—November-like conditions prevailed during the opening days, the first week being entirely sunless apart from the 4th ; while drizzly showers were experienced almost daily. A remarkable feature of this period was the warmth of the nights, the minimum recorded in nearly every case being well above the usual mean of the month. Following this depressing weather, however, the more usual characteristics of September asserted themselves and a period of pleasant conditions set in which lasted to the close of the month. At first this period was marked by summerlike warmth, but towards the close the lateness of the season asserted itself and on several early mornings during the last week ground frosts were in evidence.

The total rainfall varied locally from 1.11 inches at Bishopston to 0.96 inch at Frampton Cotterell, falling upon 14 and 17 days. The heaviest fall was 0.37 inch and 0.35 inch respectively on the 5th. The totals show a deficiency locally of two inches and the month is the driest September since 1912, when after a very wet summer rain only fell upon four days.

Mean atmospheric pressure was well above the normal, the value at 9 a.m. being 30.093 inches. The highest reading occurred on the 30th with 30.422 inches, and the lowest on the 12th, with 29.751 inches.

The mean temperature was 59.2 degrees, being $2\frac{1}{2}$ above the average, this being no less than seven above that of the month in 1925. Furthermore it proves the warmest September of the present century, for it is necessary to go back to 1898 to find a higher mean for the month, when the value was 60.5 degrees ; while in 1895 the figures were 61.6 degrees. The warmest day was the 19th with a mean temperature of 67.8 degrees, and the coldest the 26th, mean 44.9 degrees. The extremes were 80.2 degrees on the 19th, and 33.9 degrees on the 27th—a range of 46.3 degrees. A maximum of 91 degrees was recorded at Camden Square, London, on the 19th.

October.—The month opened with a fortnight of warm autumnal weather, fine at first but after the 5th very wet and stormy. With the 13th, however, the wind became easterly

and a period of remarkable cold set in which lasted out the month. The closing day was one of bright sunshine, but this was accompanied by a severe frost in the early morning and a bitterly cold easterly wind throughout the day.

The total rainfall locally at Bishopston was 4.69 inches and at Frampton Cotterell 3.52 inches ; falling upon 18 days. The heaviest rainfalls respectively were 0.99 inch on the 12th, and 0.70 inch on the 28th. Although these figures show a decided excess locally, the fall upon the whole was deficient over our islands except in the far north.

Mean atmospheric pressure locally at 9 a.m. was 29.907 inches—not quite the average. The extremes recorded were 30.531 inches on the 4th, and 29.255 inches on the 25th.

The mean temperature was 46.2 degrees, a value no less than four below the average, the month being the coldest October since 1919 when the mean was as low as 44.8 degrees. In this case, however, the month was very cold throughout, and at no time were the days of such extreme cold, as occurred several times on this occasion. The difference in the mean temperature of the first half of the month and the last fortnight was extraordinary, that to the 17th being 53.1 degrees, and that of the concluding two weeks only 37.9 degrees—a value much below that of a normal January. The warmest day of the month was the 3rd, with a mean of 58.4 degrees, and the coldest the 19th, mean 33 degrees ; while the extremes recorded were 69.1 degrees on the 3rd and 18.8 degrees on the 19th—an extreme range of 50.3 degrees. The number of frosty nights were 9.

November.—This proved the wettest November on record in this locality, the nearest approach being a fall of 6.53 inches according to Dr. Burder in 1888 ; while over 6 inches were also recorded in 1875 and 1885. Taking the remaining months of the year since 1900 there have been four with greater falls, these being October, 1903, 8.03 inches, August, 1912, 8.38 inches, August, 1917, 8.10 inches, and September, 1918, 10.21 inches, while February, 1923 possessed a practically identical fall. It is curious to note however that although the present century is so rich in heavy monthly falls; throughout the whole of the last half of the past century only upon one occasion was so great a fall recorded this being in August, 1891, when the value for Clifton was 8.49 inches. To return to the present month, over two-thirds of the rain fell during the first half, the weather being of a most unsettled and stormy type with gales upon several occasions locally. The last half was much quieter and the rainfalls more moderate, but these were associated with much colder conditions and night frosts were frequent. A notable feature of the month was the dense fog which prevailed extensively over England from the evening of the 23rd to the 25th.

The total rainfall locally varied from 7.87 inches at Bishopston to 6.59 inches at Frampton Cotterell, falling upon 28 days. The heaviest falls were 1.03 inches, and 0.93 inch respectively on the 8th. The excess of rainfall practically covered the whole of our islands apart from the extreme north west of Scotland, which reported a deficiency.

Mean atmospheric pressure at 9 a.m. was 29.574 inches, a value nearly four-tenths below the normal. The extremes recorded were 30.262 inches on the 16th, and 28.530 inches on the 20th.

The mean temperature was 42.4 degrees, these figures being about the average. The warmest day was the 11th, mean temperature 50.3 degrees, and the coldest the 1st, mean 34 degrees. The extremes were 55.3 degrees on the 4th, and 22 degrees on the 1st—a range of 33.3 degrees. The number of frosty nights were 7, against 15 recorded for the month a year ago, when the mean temperature of the month was as low as 38.7 degrees.

December.—This month in its way proved as remarkable a character as its predecessor, it being one of the driest, most equable, and calmest Decembers on record. Also, although so fine and dry the temperature upon the whole was not low and fog was not unduly prevalent, and while there were many frosty nights these were slight in character. Indeed only once did there appear any prospect of a spell of real winter, this being just before Christmas Day, for which both the scientists and the ordinary weather wise predicted real “old fashioned” conditions. For once all were mistaken, the cold wave which threatened our islands from the east being diverted in a southerly direction, and, while bitter frosts prevailed over France and heavy snowstorms over Spain, our islands were receiving occasional spells of quite warm sunshine together with light and genial breezes.

The total rainfall locally was 0.51 inch at Bishopston, and 0.55 inch at Frampton Cotterell, falling upon 11 days. The heaviest falls were 0.20 inch and 0.23 inch respectively on the 5th. The amount shows a deficiency of three inches, and apart from 1917, with a very similar fall there has not been so dry a December since 1853. In that year according to Dr. Burder, the fall was 0.60 inch, but in this case the dry weather was associated with very cold and wintry conditions.

The mean pressure at 9 a.m. locally was 30.331 inches, and only once before during the present century has any month shown so high a value, this being January, 1907, with 30.364 inches. The extremes recorded were 30.708 inches on the 24th and 29.877 inches on the 3rd.

The mean temperature was 38.8 degrees a value slightly below the normal. The warmest day was the 31st, with a mean of 45.2 degrees, and the coldest the 15th, mean 31.9 degrees. The maximum for the month was 49.6 degrees on the 29th, and the minimum 24.2 degrees on the 16th—showing an extreme range of 25.4 degrees. There were 12 frosty nights.

Taking the year as a whole its chief features were its early warmth followed by its wet, cold spring-time, pleasant summer, and the remarkable extremes of rainfall and temperature during the autumn and early winter. In its results the year was of a fairly favourable character, early expectations, however, not being quite realized owing to the ungenial spring-time.

The chief results locally for the year compiled from observations taken daily at 9 a.m. were as follows :—

Mean pressure (corrected) ...	... 29.948 inches.
Greatest pressure ...	... 30.708 ins. on Dec. 24th
Least pressure ...	... 28.530 ins. on Nov. 20th
Total rainfall at St. Andrew's Park ...	36.61 inches
Departure from average ...	+1.52 inches
Heaviest fall in 24 hours ...	2.06 ins. on Jan. 1st
Total rainfall at Frampton Cotterell	31.18 inches.
Departure from average ...	+0.71 inch.
Heaviest fall in 24 hours ...	1.89 ins. on Jan. 1st
Number of rainy days ...	213
Mean temperature (max. and min.)	49.7 degrees.
Departure from average ...	+0.1 degree
Maximum shade temperature ...	83.9 degrees on July 14th
Minimum temperature ...	13.3 degrees on Jan. 17th
Extreme range ...	70.6 degrees.
Mean of warmest day ...	72.4 degrees on July 12th
Mean of coldest day ...	23.1 degrees on Jan. 17th
Hours of bright sunshine (estimated)	1,372.
Days of bright sunshine ...	93
Days entirely overcast ...	81
Number of frosty nights ...	51

H. H. HARDING, F.R.Met. Soc.

For the observations relating to St. Andrew's Park, Bishopston, given in the above notes, I am indebted to the courtesy of Mr. H. Vicars Webb.

CITY AND COUNTY OF BRISTOL.

Table 1.

Causes of, and Ages at, Death during the Year, 1926.

ESTIMATED POPULATION (1926).				Deaths in Whole District at Subjoined Ages.												Deaths in Localities (at all Ages).								*Corrections made for Transferable Deaths.		Total Deaths in Public Inst'itions	
				All Ages	Under 1	1 & under 2	2 & under 5	5 & under 15	15 & under 25	25 & under 45	45 & under 65	65 & upwards	Ashley	Bedminster	Bristol Central	Clifton	Knowle	St. George	Stapleton	Westbury-on-Trym	Mun. Institutions (Home Add.unknown)	Inward Transfers	Outward Transfers				
1 ENTERIC FEVER	3	1	(+)	(-)	1	4	
2 SMALL-POX	
3 MEASLES	5	..	3	2	
4 SCARLET FEVER	9	..	1	3	5	
5 WHOOPING COUGH ..	..	..	..	30	18	11	12	26	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6 DIPHTHERIA & CROUP ..	..	..	..	43	4	1	12	26	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7 Influenza ..	..	..	..	82	5	1	1	1	6	12	19	37	17	15	5	12	..	..	..	..	..	..	..	..	..
8 Erysipelas ..	..	..	..	5	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
9 Phthisis (Pulmonary Tuberculosis) ..	..	..	..	374	5	4	6	7	84	157	102	9	35	79	44	28	16	105	57	..	..	..	..	..	..
10 Tuberculous Meningitis ..	..	..	..	25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
11 Other Tuberculous Diseases ..	..	..	..	35	..	5	4	2	6	4	11	8	10	2	7	10	1	..	..	..	..	..	..	..	..
12 Cancer, malignant disease ..	..	..	..	474	..	1	1	..	5	41	213	213	62	62	57	69	30	106	60	27	1	..	..	..	..
13 Rheumatic Fever ..	..	..	..	28	..	..	2	4	8	..	6	8	2	5	2	..	3	8	8	..	..	..	..	..	..
14 Meningitis ..	..	..	..	12	3	1	..	1	4	..	1	1	3	2	1	1	..	..	..	..	..	..	..	..	..
15 Organic Heart Disease ..	..	..	..	620	..	..	..	5	11	50	195	359	95	93	70	78	31	136	86	28	3	..	..	..	..
16 Bronchitis ..	..	..	..	256	34	2	1	..	..	7	45	167	25	40	40	27	11	63	39	10	1	..	..	..	..
17 Pneumonia (all forms) ..	..	..	..	341	67	22	17	6	13	43	74	99	31	49	53	39	17	86	45	20	1	..	..	..	..
18 Other Diseases Respiratory Organs ..	..	..	..	54	4	1	1	1	1	7	15	24	9	6	9	8	4	12	6	..	..	..	..	..	..
19 DIARRHOEA AND ENTERITIS ..	..	..	..	40	..	35	5	..	..	6	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20 Appendicitis and Typhilitis ..	..	..	..	20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
21 Cirrhosis of Liver ..	..	..	..	18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
21a Alcoholism ..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
22 Nephritis and Bright's Disease ..	..	..	..	143	2	..	1	4	6	21	55	54	17	35	17	..	9	10	33	15	..	..	..	..	..
23 Puerperal Fever ..	..	..	..	10	..	..	..	..	..	1	9	..	1	3	..	..	..	3	3	..	..	..	..	..	..
24 Other Accidents and Diseases of Pregnancy and Parturition ..	..	..	..	13	..	..	..	..	..	..	13	..	..	2	..	1	4	2	2	..	..	..	..	..	..
25 Congenital Deformity and Malformation, including Premature Birth ..	..	..	..	189	186	1	2	..	..	..	..	14	30	32	17	13	57	22	3	1	..	..	..	..	..
26 Violent Deaths ..	..	..	..	100	3	3	4	13	12	17	31	17	11	15	19	10	4	21	12	8	1	..	..	..	..
27 Suicide ..	..	..	..	33	..	..	..	..	1	9	18	5	5	5	3	5	3	4	6	2	..	..	..	..	..
28 Other Defined Diseases ..	..	..	..	1,415	91	9	10	20	30	113	343	799	194	230	178	211	77	270	196	46	13	23	111	630(1 P'rt)	..
29 Diseases ill-defined or Unknown ..	..	..	..	5	..	..	1	..	..	..	4	..	2	2	..	1	..	..	..	..	..	..	..	..	..
All Causes ..				4,384	463	69	65	114	200	516	1156	1801	547	714	573	535	229	995	597	170	24	76	307	1732(2 P'rt)	(4 P'rt)		

Sub-Entries included in above figures	14a Cerebro-Spinal Meningitis	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	28a Poliomyelitis	2	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Encephalitis Lethargica	22	1	..	11	..	..	2	8	9	2	3	8	..	..	1	..	..	..	..	..	..	..	..	..
	Venereal Disease	15	3	..	..	..	..	..	..	..	1	2	..	..	..	1	..	..	..	..	..	..	..	..	..
	Dysentery ..	6	..	..	..	..	..	..	3	3	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..

CITY RATES.

Birth Rate	Death Rate			Principal Epidemic Diseases (Zymotic) Rate	Infantile Rate	Deaths of Infants under 1 ..																					
	This Year	Last Year	This Year	Last Year	10 Years' Average	M.	F.	TOTAL	M. 305	F. 271	M. 525	F. 476	M. 884	F. 832	M. 373	F. 338	M. 150	F. 123	M. 731	F. 721	M. 372	F. 374	M. 127	F. 118	M. 77	F. 79	M. 3,429	F. 3,214
17.32	17.36	11.44	13.34	13.16	0.34	69.7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*6,643
								

* Transferable Births and Deaths.

Births.—In accordance with information received from the Registrar-General, 70 births (38 males and 32 females have been added; and 303 births (153 males and 150 females) have been deducted from the total number, 6,876 (3,544 males and 3,332 females), registered in the City.

Deaths.—The total deaths registered in the City numbered 4,615. Of these, 307 were deaths of non-residents, chiefly occurring in Public Institutions, Nursing Homes, etc., and these have been excluded. Deaths of 76 Bristol residents which occurred in other Districts have been included.

TABLE 2.—INFANT MORTALITY during the Year 1926.
Deaths from stated causes in Weeks and Months under One Year of Age.

CAUSE OF DEATH	Corrections made for Transferable Deaths		Outw'rd Trans- fers (-)		Inward Trans- fers (+)		Corrections made for Transferable Deaths	
	Total Deaths Under One Year	11-12 Months	Total Deaths Under One Year	11-12 Months	Total Deaths Under One Year	11-12 Months	Total Deaths Under One Year	11-12 Months
Small-pox
Chicken-pox
Measles
Scarlet Fever
Whooping Cough
Diphtheria and Croup
Erysipelas
{Tuberculous Meningitis
Abdominal Tuberculosis
{Other Tuberculous Diseases
Meningitis (not Tuberculous)
Convulsions	...	4	2	...	...	...	...	...
Laryngitis	1	...	3	2	...	...
Bronchitis	1	...	6	5	...	...
Influenza	1	...	8	3	12	4
Pneumonia (all forms)	4	2	1	1	4	5
{Diarrhoea	4	2	1	1	4	5
Enteritis	2	1	4	7	8	1
Gastritis	1	1	1	1	6	4
Syphilis	1	1	2	1	1	2
Rickets	1	1	1	1	1	1
Suffocation, overlying	...	5	1	1	5	1	1	5
Injury at Birth	...	5	1	2	3	27	1	1
Atelectasis	...	21	1	2	3	27	1	1
{Congenital Malformations	...	17	3	2	5	27	7	2
Premature Birth	...	66	7	8	1	82	6	1
{Atrophy, Debility & Marasmus	...	11	5	4	6	26	4	8
Other causes	...	13	5	2	1	21	6	3
Pemphigus Neonatorum	1	1	...	1	2
Totals	143	29	23	25	220	44	33
Net Deaths during the Year	{ Legitimate Infants		{ Illegitimate Infants		M. 264		F. 170	
		M. 17		F. 12	
		29		182	
	183		463		1		24	

TABLE 3.

Birth-rate, Death-rate, and Analysis of Mortality during the Year 1926.

(Provisional figures. The rates for England and Wales have been calculated on a population estimated to the middle of 1926, while those for the towns have been calculated on populations estimated to the middle of 1925. The mortality rates refer to the whole population as regards England and Wales, but only to civilians as regards London and the groups of towns).

	BIRTH RATE PER 1,000 TOTAL POPULATION	ANNUAL DEATH-RATE PER 1,000 POPULATION.						RATE PER 1,000 BIRTHS	PERCENTAGE OF TOTAL DEATHS.
		All Causes	Total Deaths under One Year.	Deaths from Neglects and Diseases under 2 Years.	Causes of Death certified Regarded as Medical Practitioners.	Inquests.	Cases of Death held by Medical Practitioners.		
England and Wales	... 17.8	11.6	0.01	0.00	0.09	0.02	0.10	0.07	0.22
105 County Boroughs and Great Towns, including London	... 18.2	11.6	0.01	0.00	0.12	0.02	0.10	0.10	0.22
158 [†] Smaller Towns (1921 Adjusted Populations 20,000—50,000)	... 17.6	10.6	0.01	0.00	0.07	0.02	0.11	0.06	0.23
London	... 17.1	11.6	0.01	0.00	0.20	0.02	0.05	0.12	0.17

† Hanwell U.D. having been added to Ealing M.B. on the 1st October, 1926, the figures relate to 158 towns for the first nine months and to 157 towns for the rest of the year.

CITY AND COUNTY OF BRISTOL.

Table 4.

Cases of Infectious Disease and Tuberculosis notified during the Year 1926.

Notifiable Diseases.	Cases notified in Whole District										Total Cases notified in each Locality										No. of Cases removed to Hospitals from each Locality.				
	At all Ages		At Ages—Years		65 and upwards		Bedminster		Bristol Central		Clifton		Kmowle		St. George		Stapleton		Westbury-on-Trym		Public Insts.		Port Belonging to Bristol		Port Cases
Small-pox
Cholera
Plague
Diphtheria (including Membranous Croup)	711 (1M)	13 133	152 5	464 1	53 9	26 11	3 37	..	90 113	103 55	83 21	54 12	..	..	..	..	..	..	..	..	..	..	..	..	..
Erysipelas
Scarlet Fever
Typhus Fever
Enteric Fever
X-Para B.
Relapsing Fever
Continued Fever
Puerperal Fever
Cerebro-Spinal Meningitis
Polyomyelitis
Puerperal Pyrexia
Acute Primary Pneumonia	309 2	7 1	35 10	30 18	51 38	89 29	67 14	30 21	32 11	81 10	29 17	21 7	34 32	8 12	10 2	5 1	5 1	5 3	5 3	19 6	13 3	2 9	4 1
Acute Influenza Pneumonia
Malaria
Dysentery
Trench Fever
Acute Encephalitis Lethargica
Acute Polio Encephalitis
Ophthalmia Neonatorum
Pulmonary Tuberculosis
Tuberculous Meningitis
Tuberculosis of Peritoneum & Intestines
Tuberculosis of Spinal Column
Tuberculosis of Joints
Tuberculosis of other Organs
Total	..	3,378 ⁽²⁾	88 ⁽³⁾	1,279 ^(1M)	514 ^(1M)	648 ⁽³³⁷⁾	91 ^(1M)	367 ⁽²⁾	629 ^(1M)	392 ⁽²⁾	306 ^(1M)	182 ^(1M)	806 ^(1M)	205 ^(1M)	22 ^(1M)	167 ⁽¹⁵⁾	233 ⁽¹⁵⁾	188 ⁽¹⁵⁾	125 ⁽¹⁵⁾	63 ⁽¹⁵⁾	398 ⁽¹⁵⁾	174 ⁽¹⁵⁾	32 ⁽¹⁵⁾	188 ⁽¹⁵⁾	21 ⁽¹⁵⁾

† 1 Military Case.

* Cases coming to the knowledge of the M.O.H. otherwise than by Notification. (Not included in Totals).

Table 5.
Populations, Births, Marriages, Deaths, Infantile Mortality, Zymotic Rate.

Year	Estimated Population (Mid-year)	BIRTHS		MARRIAGES		DEATHS		INFANTILE MORTALITY		ZYMO-TIC Rate per 1,000 Living
		Number	Rate per 1,000 Living	Number	Rate per 1,000 Living	Number	Rate per 1,000 Living	Deaths under 1 Year	Rate per 1,000 Births	
1877	197,395	7295	36.9	\$1199	9.3	4415	22.3	1120	153.5	3.3
8	199,879	7236	36.2	1159	9.0	4409	22.0	1145	158.2	2.0
9	202,400	7644	37.7	1115	8.5	4496	22.2	1112	145.4	2.2
1880	204,942	7193	35.1	1195	8.9	4276	20.8	1040	144.5	3.0
1	207,229	7121	33.8	1103	8.6	4050	19.5	900	126.3	2.2
2	208,007	6935	33.3	1107	8.6	4019	19.3	988	142.0	2.3
3	209,522	6844	32.6	1073	8.5	3795	18.1	917	133.9	1.1
4	211,048	6888	32.6	1090	8.7	4023	19.0	1001	145.3	1.8
5	212,586	6786	31.9	974	8.1	4281	20.1	1052	155.0	2.2
6	214,134	6724	31.4	2102	9.5	4253	19.8	1002	149.1	2.2
7	215,694	6619	30.6	1830	8.1	4542	21.0	996	150.4	3.0
8	217,266	6608	30.4	2614	11.5	3816	17.5	824	124.6	1.3
9	218,848	6694	30.5	2616	11.4	4021	18.3	976	145.8	2.2
1890	220,442	6634	30.0	2778	11.9	4532	20.5	991	149.4	2.1
1	222,049	6725	30.3	2587	11.6	4631	20.8	972	144.5	1.7
2	223,592	6563	29.3	2598	11.6	4331	19.3	953	145.2	2.0
3	225,028	6788	30.1	2558	11.3	4241	18.8	959	141.2	1.6
4	226,578	6393	28.8	2609	11.5	3888	17.1	948	148.3	2.0
5	228,139	6622	29.0	2484	10.8	4108	18.0	935	141.1	1.1
6	230,623	6537	27.8	2645	11.4	3960	16.8	908	138.9	1.8
7	232,242	6514	28.0	2706	11.6	3988	17.1	949	145.6	1.8
8	316,900	9061	28.5	2742	8.6	5441	17.1	1491	164.5	2.6
9	320,911	9336	29.0	2714	8.4	5844	18.2	1467	157.1	1.8
1900	324,973	8972	27.6	2839	8.7	5397	16.6	1185	132.0	1.8
1	329,086	8889	27.0	2736	8.3	5249	15.9	1159	130.4	1.6
2	334,632	9368	27.4	2827	8.4	5905	17.3	1225	130.7	2.7
3	338,895	9239	27.2	2738	8.0	4822	14.2	1075	116.3	1.1
4	343,204	9135	26.6	2894	8.4	5347	15.5	1222	133.7	1.6
5	358,515	9649	26.9	2870	8.0	5286	14.7	1182	122.4	1.6
6	363,223	9372	25.8	2793	7.6	5299	14.5	1196	127.6	1.6
7	367,979	8915	24.2	3001	8.1	4897	13.3	900	100.9	0.8
8	372,785	8753	23.0	2806	7.5	5230	13.7	1102	125.8	1.2
9	377,642	8507	22.5	2670	7.0	4869	12.8	860	101.0	0.9
1910	382,550	8258	21.5	2670	6.9	4523	11.8	746	90.3	0.6
1	357,522	7728	21.6	2760	7.7	5424	15.2	1086	141	2.2
2	359,432	7717	21.5	2939	8.2	4866	13.5	791	103	0.9
3	361,362	8095	22.4	2951	8.2	4633	12.8	777	96	1.1
4	361,573	7743	21.4	3138	8.6	4898	13.5	783	101	0.8
5	352,859	7383	20.4	4084	11.2	5546	15.7	856	116	1.3
6	* 373,939	7314	19.6	3135	8.3	4908	14.3	697	95	0.8
	343,688	7314	19.6	3135	8.3	4908	14.3	697	95	0.8
7	* 373,223	6101	16.3	3019	8.1	4784	14.3	605	99	0.4
	+ 334,814	6101	16.3	3019	8.1	4784	14.3	605	99	0.4
8	* 378,910	6015	15.9	3222	8.5	5795	17.1	551	92	1.1
	+ 338,174	6015	15.9	3222	8.5	5795	17.1	551	92	1.1
9	* 376,312	6700	17.8	3764	10.0	4830	13.4	558	83	0.4
	+ 361,247	6700	17.8	3764	10.0	4830	13.4	558	83	0.4
1920	377,800	9602	25.4	3870	10.2	4430	11.7	665	69	0.7
1	381,700	8283	21.7	3282	8.5	4230	11.1	548	66	0.7
2	383,900	7495	19.5	3181	8.3	4927	12.8	541	72	0.6
3	385,600	7347	19.1	2997	7.7	4371	11.3	456	62	0.6
4	* 386,400	6940	18.0	2924	7.5	4701	12.2	493	71	0.3
	+ 386,200	6940	18.0	2924	7.5	4701	12.2	493	71	0.3
5	* 386,000	6730	17.4	3015	7.8	5182	13.4	511	76	1.2
6	* 383,600	6643	17.3	2843	7.4	4384	11.4	463	69	0.3

* For Calculation of Birth Rates.

† For Calculation of Death Rates.

|| Figures from Registrar General's Reports from 1911 to 1925.

¶ on 1911 Population.

§ Marriages registered in the District of the Bristol Union which includes the Registration Sub-Districts of St. Mary Redcliffe, Castle Precincts, St. Paul, St. James, and St. Augustine's only.

* Marriages registered in the Bristol Union, Barton Regis Union and Bedminster Union. Barton Regis Returns include the extra municipal portion of that Union, so that the figures given are slightly excessive.

† Marriages for 1899 were for the first time given for an area co-extensive with the whole enlarged City

Table 6.

Deaths from Communicable Diseases during the 50 years—1877-1926.

Year	Smallpox		Measles		Whooping Cough		Diphtheria (including Memb. Croup)		Scarlet Fever		Enteric Fever		Typhus Fever		Diarrhoea, etc., and Enteritis		Puerperal Fever		Erysipelas		Influenza		Pulmonary		Tuberculosis		Meningitis		Other Forms		Pneumonia		Cerebro Spinal Meningitis		Polio Myelitis		Encephalitis Lethargica		Polio Encephalitis		Dysentery		Malaria		Venercal Disease	
1877	133	239	4	45	101		31	2	117				17																						52											
1878	53	66	5	36	89		92	42	171				12																				39													
1879	74	174	4	92	42		39		70				13																			39														
1880	73	95	6	244	39				184				10																			35														
1881	120	38	10	153	52		38		104				18																		25															
1882	54	196	8	75	38		10	1	83				10																		25															
1883	33	38	13	33	29								10																		26															
1884	46	99	19	37	40								11																		36															
1885	159	149	25	21	16								10																		32															
1886	8	101	28	89	29								119	8	11																23															
1887	13	147	23	217	23								117	9	10																25															
1888	26	61	38	26	45		28						68	17	21																24															
1889	185	105	15	26	38								131	11	16																19															
1890	92	201	16	40	33								96	12	9																24															
1891	+1	239	53	16	37		23						58	7	12																20															
1892	105	154	38	47	18								99	25	21																34															
1893	25	80	53	35	26								125	16	11																29															
1894	§+ 16	116	177	50	16		21						65	11	8																23															
1895	8	45	34	16	22								143	8	6																18															
1896	5	143	64	38	59		20						106	10	10															20																
1897	57	118	36	18	47								153	6	5																20															
1898	309	110	44	14	26								348	11	6																24															
1899	38	118	33	13	35								345	22	13																28															
1900	200	54	103	39	44								165	20	12																22															
1901	7	189	124	36	40								213	17	21																14															
1902	411	105	189	66	58								178	17	12																22															
1903	11	65	119	49	21								148	14	8																3															
1904	94	110	105	36	26								249	16	9																12															
1905	180	123	59	39	13								196	6	8																24															
1906	140	102	82	27	21								272	14	7																11															
1907	36	35	63	26	15								152	11	10																11															
1908	96	123	69	10	10								183	7	6																19															
1909	*9	90	56	55	12		12						141	17	3															15																
1910	32	66	38	12	9								114	14	7															19																
1911	166	142	41	16	17								435	11	9															20																
1912	3	157	71	50	11		5						87	15	11															25																
1913	48	54	26	6	7								201	7	5															33																
1914	95	64	33	21	7								167	14	23															13																
1915	7	107	130	35	17		12						201	9	9															26																
1916	—	116	23	30	10		2						142	8	7															28																
1917	—	1	60	27	3		6						93	7	4															13																
1918	—	207	72	32	6		10						113	10	2	1027	512	34	63	567	14	1	4	5	20	1	1	1	1	1	15															
1919	—	4	61	20	1		7						76	5	10	390	398	31	55	422	8	2	1	1	1	1	1	1	1	1	1	17														
1920	—	98	17	80	8		5						101	21	9	51	366	100	318	3	26	13	1	1	1	1	1	1	1	1	1	11														
1921	—	1	26	43	103	7	3						119	5	8	50	357	63	305	1	2	22	12	1	1	1	1	1	1	1	1	15														
1922	—	63	29	74	16	1							65	7	9	271	407	101	420	4	2	2	2	2	2	2	2	2	2	6	15															
1923	—	35	78	48	18	4	1						80	6	11	42	372	39	48	376	4	3	3	3	3	3	3	3	3	3	17															
1924	—	16	8	60	8	3							62	8	13	212	354	85	409	2	1	1	1	1	1	1	1	1	1	11																
1925	—	252	76	74	28	6							72	23	15	118	365	98	448	1	2	22	13	1	1	1	1	1	1	1	1	8														
1926	—	5	30	43	9	3							40	10	5	82	374	25	35	341	1	2	22	12	1	1	1	1	1	1	1	15														

NOTE.—The figures given in heavy type are from the Local Death Returns; those for 1911 onwards, in ordinary type, are from the Registrar General's Annual Reports.

† This death occurred in the Novers Hill Hospital outside the City, and so did not appear in the General Returns.

‡ Of these deaths one occurred in the Novers Hill Hospital outside the City, and so did not appear in the General Returns.

§ Of these deaths five occurred in the Novers Hill Hospital outside the City, and so did not appear in the General Returns.

|| This death occurred on the Hospital Ship, Avonmouth. Patient was admitted from Keynsham Workhouse outside the City.

* Including one death which occurred at Cossham Hospital, admitted from Chipping Sodbury Rural District.

CITY AND COUNTY OF BRISTOL.

Table 7.

Showing the number of Cases of Infectious Disease notified under the Infectious Disease Notification Act, 1889, since its adoption in 1890, and cases of Tuberculosis notified under the Tuberculosis Regulations.

* Military cases excluded.

TABLE 8.—Sanatoria available for In-Patient Treatment, 1926.

No. of Beds.	ADMITTED.			DISCHARGED.			DIED.			TRANSFERRED.		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
EARLY CASES.												
Winsley Sanatorium, nr. Bath. (Beds retained by payment to Winsley Board of Management) ..	58	86	52	138	87	45	132	—	1	1	2	5
Ham Green Sanatorium, Pill, near Bristol (On adjacent site to Isolation Hospital) ...	52	81	77	158	126	157	283	20	21	41	1	2
ADVANCED CASES.												
Ham Green Tuberculosis Hospital (On adjacent site at Ham Green) ...	72	89	96	185	126	157	283	20	21	41	1	2
Ham Green Red Cross Hospital (for Soldiers & Sailors) ...	12	—	—	—	—	—	—	—	—	—	—	3
CHILDREN (under 16).												
* Frenchay Park Sanatorium, Frenchay, nr. Bristol ...	35	46	59	105	51	49	100	1	—	—	—	4
Novers Hill Sanatorium, Bedminster Down, Bristol ...	36	32	25	57	14	13	27	—	—	—	—	1
SURGICAL CASES.												
Cossham Hospital, Kingswood, Bristol (9 beds retained by payment of maintenance charges) ...	9	16	12	28	14	8	22	1	1	2	—	—
Lord Mayor Treloar Cripples' Hospital, Alton, Hants (patients sent in by arrangement, on payment of maintenance charges) ...	—	—	—	—	1	3	1	4	—	—	—	—
Orthopaedic Hospital, Redland, Bristol (patients sent in by arrangement on payment of maintenance charges) ...	—	—	—	—	—	—	—	—	—	—	—	—
Heatherwood Hospital, Ascot, Berks (patients sent in by arrangement on payment of maintenance charges) ...	—	—	—	—	4	9	13	7	1	8	—	—
... 	—	—	—	—	3	2	5	2	4	6	—	—

* This is the number of cases at present nursed in Frenchay Sanatorium, but it is hoped to bring the accommodation up to 100 eventually.

During the year the following cases were also admitted to and discharged from various outside Institutions :

	ADMITTED.			DISCHARGED.			DIED.			TRANSFERRED.		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
PULMONARY.												
British Legion Village, Aylesford	—	—	—	3	—	—	—	—	—	—	—	—
St. Michael's Home, Axbridge	—	—	—	2	—	—	—	—	—	—	—	—
Nordrach-on-Mendip Sanatorium	—	—	—	—	—	—	—	—	—	—	—	—
SURGICAL.												
King George's Sanatorium, Braunschweig	—	—	—	—	—	—	—	—	—	—	—	—
Shropshire Orthopaedic Hospital	—	—	—	—	—	—	—	—	—	—	—	—
Totals	6	—	—	6	—	—	—	—	—

Table 9.

Results of Sanatorium Treatment, 1926.

Duration of Residential Treatment.

Class.	Condition on Discharge	Under 3 months						3—6 months						6—12 months						More than 12 m'ths					
		M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.						
Pulmonary Tuberculosis	Quiescent	18	19	13	58	43	26	9	15	6	—	—	—	—	—	—	—	—	—	207					
	Improved	17	28	9	43	36	8	20	13	4	4	3	—	—	—	—	—	—	—	185					
	No material improvement	20	19	4	11	10	1	9	7	1	—	—	—	—	—	—	—	—	—	83					
	Died in Institution	7	11	1	10	5	—	4	2	—	—	—	—	—	—	—	—	—	—	43					
Bones and Joints	Quiescent	—	—	—	3	2	6	2	—	3	1	—	—	—	—	—	—	—	—	31					
	Improved	11	3	—	—	—	3	—	1	1	—	—	—	—	—	—	—	—	—	22					
	No material improvement	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1					
	Died in Institution	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3					
Abdominal	Quiescent	—	—	—	4	—	—	1	1	1	3	—	—	—	—	—	—	—	—	—	10				
	Improved	—	—	—	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	1				
	No material improvement	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3				
	Died in Institution	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Other Organs	Quiescent	—	—	—	1	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	4				
	Improved	—	1	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	2				
	No material improvement	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2				
	Died in Institution	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Peripheral Glands	Quiescent	—	—	—	18	—	—	20	—	—	2	—	—	—	—	—	—	—	—	—	40				
	Improved	—	—	—	9	—	—	2	—	—	1	—	—	—	—	—	—	—	—	—	12				
	No material improvement	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2				
	Died in Institution	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
		Total	... 75	82	69	125	98	69	45	39	22	6	6	6	6	6	6	6	6	651					

In the above Table, the advanced cases who were sent to Ham Green Sanatorium are included.

Table 11. Pathological and Bacteriological Examinations, 1926.

	EXAMINATIONS.							Total	
	At Pathological Laboratory Bristol University			At Laboratory of Public Analyst and Bacteriologist.					
	Virulent	Non- Virulent	No. K.L.B	Positive K.L.B.	Suspicious Organisms	Negative			
Diphtheria.									
Virulence Tests *	19	20	4	—	—	—	43		
Swabs	—	—	—	1,715	3,555	5,653	10923		
Enteric Fever.									
Widal	2	36		—	—	—	38		
Faeces and Urine	—	2		—	—	—	2		
Paratyphoid A.									
Widal	—	36		—	—	—	36		
Faeces and Urine	—	2		—	—	—	2		
Paratyphoid B.									
Widal	2	36		—	—	—	38		
Faeces and Urine	—	2		—	—	—	2		
Sputum.	190	691	(Examined at Tuberculosis Dispensary)	149	627		1657		
Cerebro Spinal Fluid.	1	—		—	—	—	1		
Dysentery.									
Faeces and Urine	1	1		—	—	—	2		
Venereal Diseases.									
For detection of :—	Spiro- chetes	Gono- cocci	Wasser- man Re- action						
For treatment centres	1	1283	1077	—	—	—	2361		
For practitioners	—	274	464	—	—	—	738		
Other examinations :—	Urine for Gono- cocci	Cultures for Gono- cocci	Cell Counts						
For treatment centres	11	98	1	—	—	—	110		
For practitioners	1	60	—	—	—	—	61		
Milk †									
For Tuberculosis	54			—	—	—	54		
Certified Milk	—			24	24	24	24		
Grade A-Tuberculin tested	—			16	16	16	16		
Grade A	—			27	27	27	27		
Pasteurised...	—			25	25	25	25		
For category	—			1	1	1	1		
Bacon	—	1 (Port)		1 (Port)	1 (Port)	1 (Port)	2		
Dried Fruits	—	—		6 (Port)	6 (Port)	6 (Port)	6		
Treacle	—	—		2 (Port)	2 (Port)	2 (Port)	2		
Bloater Paste	—	—		1	1	1	1		
Apples									
For presence of Arsenic	—			10 (7 Port)	10 (7 Port)	10 (7 Port)	10		
Rats	138	(Port)		—	—	—	138		

* Of these, 33 were of patients at Ham Green Hospital to govern discharges.

† For comments on milk samples, see page 76.

TABLE 12.—VENEREAL DISEASE CLINICS.

Table 13. MATERNITY & CHILD WELFARE.**Clinics and Treatment Centres, 1926.****MUNICIPAL ANTE-NATAL CLINICS.**

<i>Clinic.</i>	<i>Address.</i>	<i>Open.</i>	<i>Medical Officer.</i>
Bedminster	3, Clifton Terrace	Every Thursday 10.0 a.m.	Dr. Beatrice Rogers
Horfield	Friends' Meeting House, Gloucester Road	Every Tuesday, 2.30 p.m.	Dr. M. Golding
North Bristol	Brooklands Inst., Lower Ashley Rd.	Every Tuesday & Wed., 10 a.m.	Dr. M. G. Hughes
Redcliffe	90, Redcliffe Hill	Every Friday, 10.0 a.m.	Dr. Beatrice Rogers
St. Augustine's	89 St. Georges Rd., Hotwells	Every Tuesday, 10.0 a.m.	Dr. Lily Baker
Two Mile Hill	St. Michael's Parish Hall	Every Thursday 2.30 p.m.	Dr. Lily Baker
University Settlement	63 Barton Hill Rd.	Every Friday, 10.0 a.m.	Dr. Lily Baker

MUNICIPAL INFANT CLINIC.

<i>Clinic</i>	<i>Address.</i>	<i>Open.</i>	<i>Medical Officer</i>
Moorfields	38 Chapter Street, Dean Lane, Moorfields	Every Tuesday and Wednesday, 10.30 a.m.	Dr. R. C. Clarke

Hospitals provided or subsidised by the Local Authority.*The Maternity Hospital, Brunswick Square.*

Opened February, 1921. In order to prevent closure owing to financial embarrassment, the Town Council has purchased these premises and leased them to the Voluntary Committee which originally acquired the buildings.

Provides 21 beds for married women only, including two in isolation room.

Bristol Maternity Hospital and Temporary Home, 50 Southwell Street.

Provides 24 beds for married women.

„ 4 „ „ unmarried women.
„ 1 „ „ infectious cases.

**Voluntary Schools for Mothers and Societies affiliated to the
Bristol Infant Welfare Association and Council of Schools
for Mothers.**

**SCHOOLS FOR MOTHERS AND INFANT CONSULTA-
TION CENTRES.**

<i>School or Centre.</i>	<i>Address.</i>	<i>Open.</i>	<i>Medical Officer.</i>
Barton Hill (University Settlement)	63 Barton Hill Road	Wednesdays, 2.15-4.15 p.m. Thursdays, 2.30-4 p.m.	Dr. Lily Baker
Bedminster	62 West Street, Bedminster	Mon. & Thurs., 2.0-4.30 p.m. Wednesdays, 2.30-4.30 p.m.	Dr. Beatrice Rogers Dr. H. Dixon
Broad Plain	Girls' Club, 5 Broad Plain, St. Philip	Fridays, 2.30-4 p.m.	Dr. A. Stewart
Central	Central Hall, Old Market Street	Wednesdays, 2.0—4.0 p.m.	Dr. L. M. Lister
Durdham Down	Trinity Ch. School, Ashgrove Road, Whiteladies Rd.	Thursdays, 2.45 p.m.	Dr. W. A. Smith
Eastville	St. Thomas' Parish Hall, Eastville	Wednesdays, 2.30—4 p.m.	Mrs. Cyril Walker
Hotwells	12 Dowry Square	Wednesdays and Thursdays 2.15 p.m.	Dr. Beatrice Rogers
Horfield	Horfield Baptist Schools, Brynland Ave., Bishopston	Tuesdays, 2.30-4.30 p.m.	Dr. J. Angell James
Kingsdown	St. Matthew's Hall 12 Cotham Road South	Wednesdays, 2.30-4.30 p.m.	Dr. A. P. Milner
Kingswood (Situated in county dis- trict near City bound- ary).	Wesleyan Old Schoolrooms, Black Horse Rd. Kingswood Hill	Wednesdays, 2.30 p.m.	Dr. C. J. Perrott
Knowle and Brislington	Y.M.C.A. Hall, Totterdown	Fridays, 2.30—4 p.m.	Dr. R. Clarke
North Bristol	Brooklands Inst., Lower Ashley Road	Tuesdays and Fridays, 2.30-4.30 p.m.	Dr. A. Stewart
Moorfields (University Settlement)	St. Saviour's Mission, Chapter Street	Mondays, 2.30-4.0 p.m. Fridays, 2.30-4.0 p.m.	Dr. R. Clarke

<i>School or Clinic</i>	<i>Address.</i>	<i>Open.</i>	<i>Medical Officer.</i>
Northville	St. Gregory's Hall, Horfield	Thursdays, 2.30—4.0 p.m.	Dr. D. B. Maunsell
Redcliffe	90 Redcliffe Hill	Tuesdays, 2.0—4.0 p.m.	Dr. R. Clarke
Avonmouth and Shireh'mpt'n (University Settlement)	(a) Baptist Chapel, Station Road, Shirehampton (b) Wesleyan Church Institute, Collins Street, Avonmouth.	(a) Tuesdays, 2.30 p.m., alternately with (b). (b) Tuesdays, 2.30 p.m., alternately with (a).	(a) Dr. H. B. Falconar (b) Dr. H. Dixon
St. Augustine's	89-91 St. George's Road	Tues. and Fri., 2.30—4.0 p.m.	Dr. Beatrice Rogers
St. Lawrence	St. Lawrence Church House, Leadhouse Road	Thursdays, 2.30—4.0 p.m.	Dr. J. Morton Evans
St. James' and District	10 Montague St., St. James'	Tuesdays, 2.30 p.m.	Dr. L. M. Lister
St. Paul's	St. Paul's Mission House, Dean Lane	Wednesdays, 2.30—4.0 p.m.	Dr. A. Stewart
Temple	The Parish Hall, Church Lane, Temple	Thursdays, 2.30—4.0 p.m.	Dr. R. H. Burnett
Westbury	College House, Westbury-on-Trym	Wednesdays, 2.30—4 p.m.	Dr. H. Adams

DAY NURSERIES.

<i>School or Centre.</i>	<i>Address.</i>	<i>Open.</i>	<i>Medical Officer.</i>
Bristol (Children taken temporarily as residents during illness of mothers).	27-29, Ashley Road	7.30 a.m. to 7.0 p.m. daily except Sats. and Sundays.	Dr. A. N. Heron
Hotwells	12 Dowry Square	8 a.m.—6 p.m. Saturdays— 8 a.m.—1 p.m.	Dr. Marion Linton

NURSERY SCHOOL.

FOR TODDLERS 2-5 YEARS.

<i>School or Centre.</i>	<i>Address.</i>	<i>Open.</i>	<i>Medical Officer.</i>
The Friars	Rosemary Street	10 a.m.—12.0, and 2—4 p.m. daily except Sat.	Dr. H. Adams

Institutional provision for unmarried mothers, illegitimate infants and homeless children in the district.

Homes for unmarried mothers and babies.

Grove House, 148 Redland Road	...	12 beds and cots.
Bristol Maternity Hospital, Southwell Street	... 4 ... 4	,, ,
Salvation Army Home, 89 Ashley Road	30	,, 20 ,
Guardians' Institutions.		

Homes for Homeless Babies.

Ashley House, Somerset Street, Kingsdown.	35 cots.
Guardians' Institutions.	

Full information as to these Institutions was given in the report for 1920.

TABLE 14.—HOUSING ACT, 1925.

Synopsis of action taken in regard to houses represented as being unfit.

Number of houses closed and demolished for extension of business premises, etc., street improvements, and erection of new houses and flats	...	...	...	...	...	...
Total number of houses (all classes) erected during 1926—(q)	(a)	As part of Municipal Housing Scheme	...	...	...	...
	(b)	By private enterprise	...	...	...	...

640

TABLE 15.—(a) SUMMARY OF PROCEEDINGS UNDER SECTION 3 OF THE HOUSING ACT, 1925.

YEAR	No. of HOUSES RENDERED FIT.		No. of Houses where Closing Orders have become operative.	No. of Notices outstanding.	Summary proceedings for recovery of expenses incurred. No. of Houses.
	No. of Houses By Owners.	By Corporation in default of Owners.			
1919 to 1923	117	65	9	27	—
1924	73	7	1	74	8
1925	41	22	2	82	—
1926	35	40*	31	43 (a)	—
<i>Totals</i>	266	134	43	43	8

* includes 12 houses purchased by Corporation after service of Formal Notices.

(a) 16 Notices cancelled and Closing Orders made.
23 Notices cancelled

3 | 2

(b) SYNOPSIS OF HOUSES SATISFACTORILY REPAIRED UNDER NOTICE AND ORDERS

Nature of Work executed.	Without Statutory Action.					FORMAL NOTICES Sec. 3, Housing Act, 1925.					CLOSING ORDERS.					DEMOLITION ORDERS.		
	1920-3	1924	1925	1926	1920-3	1924	1925	1926	1920-3	1924	1925	1926	1920-3	1924	1925	1926		
Structural alterations, new additions and general repairs ...	65	28	10	18	20	2	3	30	6	8	6	9	18	3	9	13		
Rebuilding and general repairs ...	123	21	20	28	29	2	11	10	32	1	26	6	26	2	3	1		
General Repairs	285	29	36	37	25	4	10	31	14	-	6	16	-	-	2	6		
<i>Totals</i> ...	<i>473</i>	<i>78</i>	<i>66</i>	<i>83</i>	<i>74</i>	<i>8</i>	<i>24</i>	<i>71</i>	<i>52</i>	<i>9</i>	<i>38</i>	<i>31</i>	<i>44</i>	<i>5</i>	<i>14</i>	<i>20</i>		
									<i>177</i>				<i>130</i>				<i>83</i>	
ANNUAL TOTALS.	1920-3	... 643 ;	1924	...	100 ;	1925	...	142 ;	1926	...	205 ;	GRAND TOTAL.	...	1,090				

TABLE 16.

FACTORY AND WORKSHOP ACT, 1901.

Report by the Medical Officer of Health, 1926.

1.—INSPECTION OF FACTORIES, WORKSHOPS AND WORKPLACES.

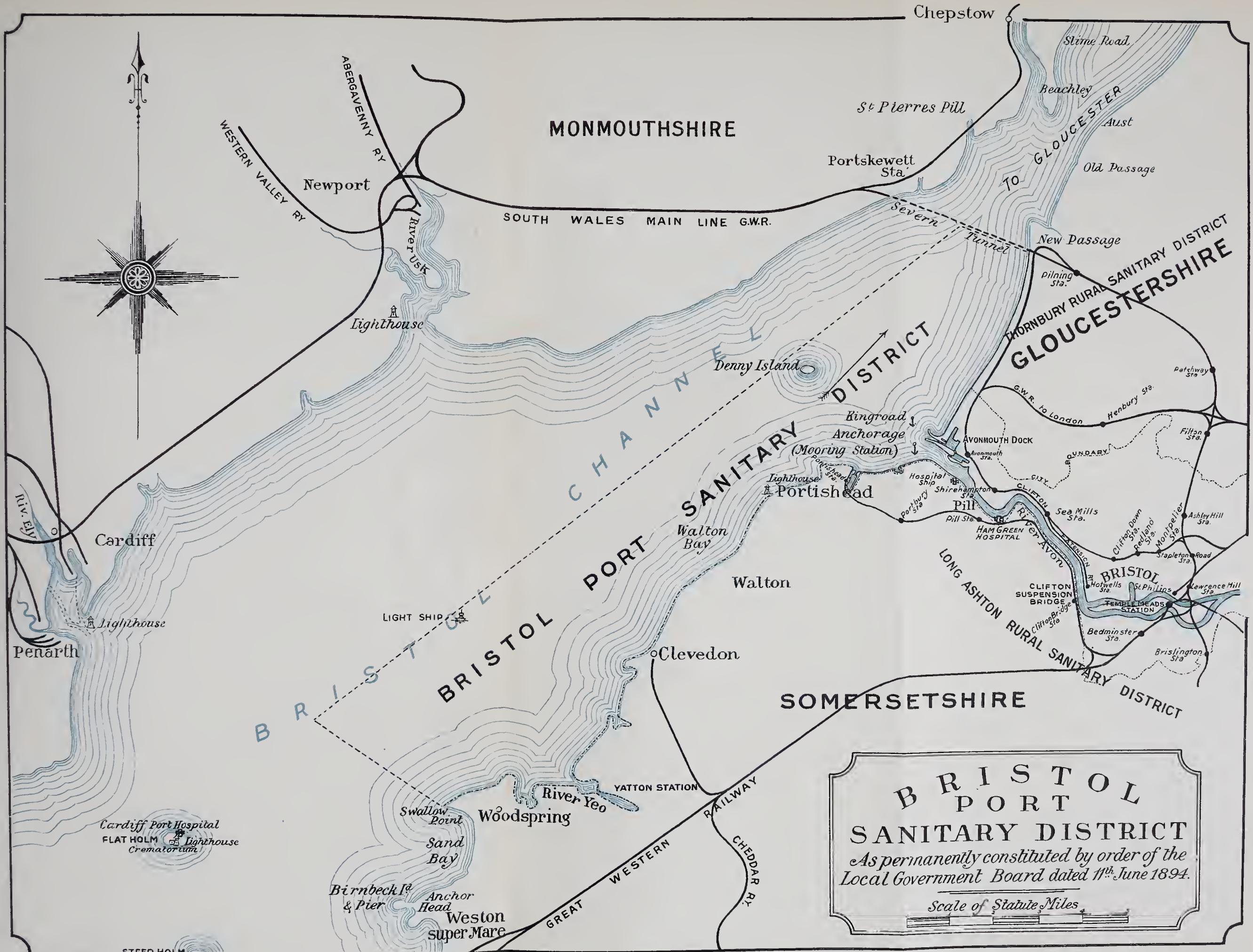
Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.

Premises (1)	Number of		
	Inspections (2)	Written Notices (3)	Prosecu- tions (4)
Factories	676	26	—
(Including Factory Laundries) ...			
Workshops	1765	11	—
(Including Workshop Laundries) ...			
Workplaces	—	—	—
(Other than Outworkers' premises) ...			
<i>Total</i> ...	2441	37	—

2.—DEFECTS FOUND IN FACTORIES, WORKSHOPS AND WORKPLACES.

Particulars (1)	Number of Defects			Number of Prosecu- tions (5)
	Found (2)	Remedied (3)	Referred to H M. Inspector (4)	
<i>Nuisances under the Public Health Acts:*</i>				
Want of cleanliness	215	215	—	—
Want of ventilation... ...	13	13	—	—
Overcrowding	—	—	—	—
Want of drainage of floors ...	2	2	—	—
Other nuisances	30	30	—	—
Sanitary accommodation	insufficient ...	22	22	—
	unsuitable or defective ...	91	91	—
	not separate for sexes	2	2	—
<i>Offences under the Factory and Workshop Acts :</i>				
Illegal occupation of underground bakehouse (s. 101) ...	—	—	—	—
Other offences	—	—	—	1
(Excluding offences relating to out-work and offences under the sections mentioned in the Schedule to the Ministry of Health (Factories and Workshops Transfer of Powers) Order, 1921).				
<i>Total</i> ...	375	375	1	—

* Including those specified in sections 2, 3, 7 and 8 of the Factory and Workshop Act, 1901, as remediable under the Public Health Acts.



BRISTOL PORT SANITARY DISTRICT.

Report of the Medical Officers of Health for the Year 1926.

Port Sanitary Authority—The City Council.

Port Sanitary District permanently constituted—1894.

Tonnage from Foreign Ports—arriving at Bristol Docks (net registered tons) :—

City Docks, including Avonmouth and Portishead :—
1926—3,133,221 tons.

The accompanying map shows the limits of the Port Sanitary District through which goes the fairway to Gloucester. The Port Sanitary Authority is the City Council. The rateable value of the City (District Rate) in 1926 is £2,179,671. The gross expenditure in connection with Port Sanitary work for the financial year ended March 31st, 1927 is £1,763 1s. 4d., including expenditure of £174 2s. 2d. in connection with the Aliens Order, which is recoverable from the Government. The amount chargeable to the rates was £999 0s. 8d. which equals a rate of .11d. in the £.

Two factors have adversely affected the efficiency of Port Sanitary work in Bristol. First the loss of the inspecting launch, which has been sold and not replaced, secondly, a collision which put the hospital ship out of use, depriving us at once of hospital beds for ship borne disease, and of a useful base for tide service. The importance of keeping the Port defences in a state of preparedness is emphasised by the frequent introductions of small-pox, which have totalled 23 in the last forty years; by the introduction of plague, in 1901, and again in 1919, following which the Minister of Health caused a special inspection of the Port to be made in 1924.

Cholera, Plague and Yellow Fever Regulations.

These Regulations are under consideration with a view to amendment, and the Officers of the Bristol Port Sanitary District are at present in communication with the Ministry of Health on the subject. The Local Regulations as published in the Bristol Port Annual Report for 1912 (p. 18) also require amendment and are under consideration jointly with the Government Regulations.

GENERAL MEDICAL INSPECTION IN THE PORT OF BRISTOL.

1.—Medical examination of passengers or crews arriving in the Port of Bristol is at present limited to—

(a) Arrivals from "infected" or "suspected" Ports, under the Cholera, etc., Regulations.

(b) Cases notified on arrival as having infectious sickness or suspicious illness on board.

(c) Aliens since April 1st, 1920.

2.—Port Medical Staff.

The City Medical Officer of Health holds since 1886 the separate appointment of Port Medical Officer of Health for which he receives an honorarium stabilised in 1923 at £100. In 1907, duties under the Foreign Meat and Unsound Food Regulations were imposed ; but systematic medical supervision under the Food Regulations is not possible under existing conditions. The Assistant Port Medical Officer of Health appointed in 1884, is not salaried, but is paid by fee for work done. Two emergency Port Medical Officers of Health (in private practice) are also appointed but seldom called for. The total extra cost of this medical assistance for the year ended 31st March, 1927, was £14 14s. Od.

Certain work is also imposed upon the Bristol Port Sanitary Authority under the Cholera, etc., Regulations in respect of Gloucester-bound ships passing through Kingroad. The cost of this work is defrayed by Gloucester, and that of Aliens inspection by the Government (Ministry of Health).

3.—Co-operation of Custom's Officer.

All vessels arriving for the Port of Bristol (including Portishead, Avonmouth and the City Docks), and for the Port of Gloucester, pass through the anchorage of Kingroad.

Since the Customs' Boarding Station has been removed from Kingroad, they are no longer in a position to intercept arrivals before they come into Avonmouth Dock or take the river for Bristol, so that the Customs are now a negligible quantity so far as any information before docking is concerned.

4.—Port Inspection Launch.

In 1893, Bristol put a Port Inspection Launch on service in Kingroad, and sanitary boarding took place by arrangement with the Customs. The launch was sold in 1912 and has not been replaced. A tug has to be hired when necessary to visit any vessel detained in Kingroad ; otherwise arrivals cannot be inspected until they come within the dock. This is the general rule.

5.—Hospital Accommodation.

In 1893, Bristol provided a Hospital Ship (20 beds) for shipborne cases, conveniently moored at the river mouth. This hospital was run down in 1916, sold, and has not been replaced. The nearest available hospitals are the City Hospitals (6 miles) by road. There are no contact shelters, nor waiting rooms available for medical examination over which the Port Sanitary Authority has control. The nearest cleansing and disinfecting station (6 miles) is at the Central Disinfecting Station, Bristol.
Procedure.

The present procedure is :—(1), Arrival of "infected" or "suspected" ship under Cholera Regulations : held up by pilot in Kingroad or Walton Bay : tug hired for medical visit. (2), Other ships arriving : proceed to berth in dock : Port Sanitary Inspector visits and enquires. If infectious disease found, or if from infected Port, medical officer advised

and visits. (3), Case and effects removed to City Hospitals : disinfection of cabins, etc., carried out, rat precautions carried out for plague, and water supply replaced when necessary.

The present system which has now obtained for some years has the excuse of success for its continuance, and it is difficult to suggest what further precautionary measures can be adopted short of (1) replacement of the sanitary launch and the hospital ship, and (2) constitution of an adequate whole time medical service to deal not only with the sanitary and disease service, but also with the inspection of foods and of aliens.

Notifications of Infectious Disease and Deaths, during 1926.

		Notifications	Deaths
Enteric Fever	...	... 4	—
Measles	...	... —	—
Acute Primary Pneumonia	...	—	—
Malaria	...	... 2	—
Pulmonary Tuberculosis	...	2	1
Other forms of Tuberculosis	...	—	1
Violence	...	... —	—
Other defined diseases	...	... —	2
		—	—
Totals	...	8	4
		—	—

Two cases of suspected plague occurred during the year.

(1). The S.S. "San Fraterno" arrived at Avonmouth on 5th August, 1926, from Tuxpan, Mexico, (cargo, Fuel-oil) with man on board with double inguinal buboes, onset July 11th, seen on July 12th by doctor at Tuxpan who made no definite diagnosis.

The case in Hospital under Dr. Peters presented—

Inguinal bubo on right side, evacuated on 5th August, laudable pus, free from blood ; indolent on left side, discrete and slightly painful, no femoral or axillary or other glands enlarged. Temperature 99.4, no signs of toxæmia; no evidence of recent V.D.

The condition of the patient, nature of pus and history of case did not suggest pestis, but the Ministry of Health was notified, and Dr. McKenzie, who was sent down, agreed that the case was not definitely plague but requested careful observation. The ship was allowed to discharge with the usual precautions and go forward to Liverpool, after notification to the M.O.H.

Pathological examination by the Ministry of material from the patient and of the ship's cat at the Bristol University all proved negative to plague.

(2). The S.S. "Amarapoora" arrived at Avonmouth on 10th December, 1926, from Rangoon, Burma (general cargo) with lascar on board ill since 21st November (Influenza) followed by enlarged glands in groin suggestive of plague.

Case removed to Ham Green Hospital on 11th inst., and consultation held on the case same day with Dr. Wilkinson of the Ministry.

The decision arrived at that the case was probably not plague was subsequently confirmed by the pathological examinations made at the Bristol University and by the Ministry of Health.

Tables numbered as follows are appended for 1926 :—

- (14) The amount of shipping entering the Port Sanitary District (Form A).
- (15) Number of rats destroyed at Avonmouth, Bristol and Portishead Docks (Form B).
- (16) Particulars relating to vessels "infected" or "suspected" or from "infected ports" with list of Bristol and Gloucester bound ships requiring medical inspection (Form C).
- (17) Vessels (other than those dealt with in Form C, subjected to measures of rat destruction (Form D).
- (18) Sickness occurring on ships during voyage or on arrival.

Reports for the year are also attached by the Medical Inspector of Aliens and by the Chief Port Sanitary Inspector relating to Port Inspection, Canal Boat Inspection and the Public Health (Regulations as to Food) Act, 1907.

D. S. DAVIES, M.D.,

Port Medical Officer of Health.

JOHN C. HEAVEN,

Assistant Port Medical Officer of Health.

Table 17.

Amount of Shipping entering the Port Sanitary District during the year 1926 (Form A).

1926	Number	Tonnage	Number Inspected		Number reported to be Defective.	Number of Orders issued (informal)	Number of Formal Notices.
			By the Medical Officer of Health.	By the Sanitary Inspector.			
Foreign—							
Steamers	+1,087	2,221,818	*24	\$1,193	160	160	5
Sailing	1	34	—	7	—	—	—
Fishing	—	—	—	—	—	—	—
Total Foreign	1,088	2,221,852	*24	1,200	160	160	5
Coastwise							
Steamers	\$3,718	816,110	—	†662	46	46	—
Sailing	1,216	95,259	—	339	16	16	—
Fishing	—	—	—	—	—	—	—
Total Coastwise	4,934	911,369	—	1,001	62	62	—
Total Foreign and Coastwise	6,022	3,133,221	*24	2,201	222	222	5

*Not including 48 vessels individually inspected under the Aliens Order.

†Not including 112 vessels from Irish Free State.

§ Including 112 vessels from Irish Free State.

RATS AND MICE DESTRUCTION ACT, 1919.

This Act is administered in the City by a Rats Officer, acting under the instructions of the City Engineer, and in the Port by the Chief Port Sanitary Inspector.

At Avonmouth Docks a rat-catcher is employed by the Docks Committee in clearing the sheds and warehouses. He is given authority to work on board ship in the docks, for which he is compensated by the master or agents.

At Bristol Docks, the Rats Officer supervises the destruction of the rats in the sheds and in the granaries, and conducts a systematic search for the rodents.

The following table gives the results of their work :

Table 18.

Rats destroyed during 1926. (Form B.)

Number of Rats.		Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total in Year
Caught alive		416	339	365	106	83	309	477	626	769	448	403	322	4,663
Found dead		400	157	462	47	36	219	121	214	345	312	415	221	2,949
<i>Total</i>		816	496	827	153	119	528	598	840	1,114	760	818	543	7,612
From sheds and warehouses in docks		515	479	602	144	119	474	501	816	767	531	610	543	6,101
From ships in dock		301	17	225	9	—	54	97	24	347	229	208	—	1,511
<i>Total</i>		816	496	827	153	119	528	598	840	1,114	760	818	543	7,612
Rats examined ...		14	13	18	8	—	—	13	13	8	19	11	17	7
,, infected with plague		—	—	—	—	—	—	—	—	—	—	—	—	138
,, not infected		14	13	18	8	—	—	13	13	8	19	11	17	7
Poison baits laid on docks		2,600	920	15,920	1,100	—	8,000	1,700	—	—	6,000	2,120	2,000	16,200
Avonmouth		—	—	—	—	—	—	—	—	—	—	—	—	56,560
Bristol		{ *Poison baits laid on docks		500	600	500	600	500	—	500	600	500	650	5,550
*Traps laid on docks		... 304		224	312	328	348	232	272	280	312	424	352	3,808
*Rats caught on docks...		... 61		41	57	54	56	39	47	45	53	69	52	642
Rats caught on Portishead Docks		30	20	20	44	12	40	—	20	19	20	20	30	295

• Avonmouth

{ *Poison baits laid on docks
 *Traps laid on docks
 *Rats caught on docks...

* Figures supplied by City Rats Officer.

PRECAUTIONS AGAINST PLAGUE.

Table 19.

Particulars relating to Vessels from "Infected" Ports
or "Suspected" Ports. (Form C.)

1926 Name of Vessel	Date of Arrival	'Whether "infected" or suspected, or from "infected" Port"	Method of Rat destruction, Fumigation		Trapping	No. of Rats killed	Whether Certificate of Deratisation issued	Ships bound for Bristol or Gloucester	Ships Medically Inspected.			
			SO ₂	HCN					In Walton Bay.	In Kingroad	At Dockside	
1	2	3	4	5	6	7	8		Bristol	Avonmouth	Portishead	
s.s. "Mahratta" ..	Feb. 6	Infected Port						Bristol		1	1	
" " Roa" ..	" 13	"						"		1	1	
" " Parnon" ..	" 20	"						"		1	1	
" " Clan-Ronald" ..	" 23	"						"		1	1	
" " Nigaristan" ..	Mar. 10	"						"		1	1	
" " Leicestershire" ..	" 22	"						"		1	1	
" " Adjudant" ..	" 25	"						"		1	1	
" " Iris" ..	" 26	"						"		1	1	
" " Halizones" ..	May 5	"						"		1	1	
" " Amarapoora" ..	" 19	"						"		1	1	
" " Lancashire" ..	" 31	"						"		1	1	
" " Gloucestershire" ..	Aug. 1	"						"		1	1	
" " Peterston" ..	" 4	"						"		1	1	
" " Mahanada" ..	" 13	"						"		1	1	
" " Burma" ..	Oct. 10	"						"		1	1	
" " Athelchief" ..	" 30	"						"		1	1	
" " Sea Victory" ..	Nov. 11	"						"		1	1	
" " Ariadne Alexandra" ..	Dec 6	"						"		1	1	
" " Sinfeld" ..	" 8	"						"		1	1	
" " Amarapoora" ..	" 10	"						"		1	1	
" " City of Agra" ..	" 13	"						"		1	1	
" " Ediba" ..	" 15	"						"		1	1	
" " Lancashire" ..	" 15	"						"		1	1	
" " Griqua" ..	" 22	"						"		1	1	

REMARKS : The greater proportion of these vessels have only part cargo to discharge, and go elsewhere to complete.

Table 20. Vessels, other than those dealt with in Form C, subject to measures of Rat Destruction. (Form D.)

Vessels fumigated with Sulphur Dioxide	No. of rats killed	Vessels fumigated with Hydrocyanic Acid. HCN	No. of rats killed	Vessels on which trapping, poisoning, etc., employed.	No. of rats killed	Fumigation Certificates issued on Form 'Port 10.'	Remarks
s.s. " Ariguani "	—	s.s. " Nuddea "	14	s.s. " Aracataca " *	17	s.s. " Ariguani "	5,760 poison baits laid in the holds and between decks of six vessels after discharge of cargo.
" Banffshire "	—	" Cadillac "	4	" Changuinola "	4	" Banffshire "	" Bayano "
" Bayano "	—	" Colonial "	7	" Changuinola "	7	" Bayano "	" Berwickshire "
" Berwickshire "	4	" Colonial "	90	" Colonial "	82	" Boston City "	" Boston City "
" Boston City "	—	" Cornishman "	51	" Cornishman "	51	" Bristol City "	" Bristol City "
" Boston City "	—	" Juni " *	17	" Juni " *	17	" Bristol City "	" Bristol City "
" Bristol City "	—	" Juni " *	—	" Queen Malve "	4	" Camito "	" Camito "
" Bristol City "	—	" Queen Malve "	4	" Queen Malve "	3	" Carare "	" Carare "
" Camito "	—	" Tuscarora "	3	" Tuscarora "	3	" Cavina "	" Changuinola "
" Carare "	—	Lighter No. 3	191	Lighter No. 3	191	" Cavina "	" Chicago City "
" Cavina "	—	—	—	—	—	" Concordia "	" Concordia "
" Cavina "	—	—	—	—	—	" Coronado "	" Coronado "
" Changuinola "	71	—	—	—	—	" Cumberland "	" Cumberland "
" Chicago City "	—	—	—	—	—	" Exeter City "	" Exeter City "
" Concordia "	76	—	—	—	—	" Exeter City "	" Exeter City "
" Coronado "	—	—	—	—	—	" Fredericus-Rex "	" Fredericus-Rex "
" Cumberland "	—	—	—	—	—	" Huntingdon "	" Huntingdon "
" Exeter City "	—	—	—	—	—	" Huronian "	" Huronian "
" Exeter City "	—	—	—	—	—	" Kastalia "	" Kastalia "
" Fredericus-Rex "	—	—	—	—	—	" Kastalia "	" Kastalia "
Barge " Hibernica "	46	—	—	—	—	" Lucia "	" Lucia "
s.s. " Huntingdon "	2	—	—	—	—	" Motagua "	" Motagua "
" Huronian "	—	—	—	—	—	" New York City "	" New York City "
" Kastalia "	225	—	—	—	—	" Nuddea "	" Nuddea "
" Kastalia "	86	—	—	—	—	" Otaki "	" Otaki "
" Lucia "	—	—	—	—	—	" Oxonian "	" Oxonian "
" Motagua "	—	—	—	—	—	" Parcora "	" Parcora "
" New York City "	—	—	—	—	—	" Patuca "	" Patuca "
" Otaki "	—	—	—	—	—	" Turakina "	" Turakina "
" Oxonian "	247	—	—	—	—	" Wells City "	" Wells City "
" Parcora "	156	—	—	—	—	" Welshman "	" Welshman "
" Patuca "	—	—	—	—	—	—	—
" Turakina "	—	—	—	—	—	—	—
" Wells City "	—	—	—	—	—	—	—
" Welshman "	—	—	—	—	—	—	—
TOTALS	1,031						

* Poison baits laid :
Certificates issued
under Canary Isl.
requirements.

PORT SANITARY.

BRISTOL.

Table 21. Sickness occurring on ships during voyage or on arrival, 1926.

Disease.	Number of Cases	Number of Deaths	Number disembarked before arrival in Bristol District	Medical Treatment :		
				On ship or at other Ports	By admission to Hospital before arrival	Local doctor or as Institution out-patient
1. Accidents, etc.	—	1	7
2. Infectious and General Diseases	...	46	3	4	16	6
including :—						
Venerel Disease	...	17	5			
Typhoid and Paratyphoid	...	8				
Tuberculosis (all forms)	...	5				
Malaria and Ague	...	5				
Influenza	...	4				
? Plague	...	2				
Mumps	...	1				
Chicken Pox	...	1				
Beri-Beri	...	1				
3. Local Diseases—						
(a) Nervous System and Sense Organs	...	6	—	1	2	1
including : Insanity	...	2				
(b) Circulatory System	3	2	1	5
(c) Respiratory System	12	1	1	2
(d) Digestive System	5	2	2	2
(e) Genito-Urinary System and Annexa...	...	2	—	—	1	1
(Non-Venereal).						
(f) Skin and Cellular Tissue	...	1	—	1	—	—
4. Ill-defined Ailments	...	5	—	1	1	2

MEDICAL INSPECTION OF ALIENS.

Annual Return by the Medical Inspector of Aliens for Year ended 31st December, 1926.

Total No. of Aliens arriving at the Port, including those in transit and transmigrants, but excluding Alien Seamen (1)		No. of temporary visitors, i.e., Aliens whose stay in this country will not exceed three months (2)			No. of Aliens who intend to settle permanently or remain in this country for more than three months (3)		
Total Number	No subjected to medical inspection*	Total Number	No subjected to medical examination†	No. of Certificates issued	Total Number	No. subjected to medical examination	No. of Certificates issued
388	283	162	—	—	† 38	38	—

ALIENS IN TRANSIT (4)			TRANSMIGRANTS (5)	
Total Number	No subjected to medical examination†	No. of Certificates issued	Total Number	No subjected to medical examination†
188	—	—	—	—

* The term "Inspection" relates to the preliminary inspection of aliens to pass before the Medical Inspector —

† The term "Medical Examination" relates to detailed medical inspection —

‡ Included in this total are 11 Diplomats and 4 Residents returning who are exempt from medical examination —

Particulars relating to Detailed Medical Examination of Aliens.

6. Aliens who were subjected to detailed medical examination and were not certified by Medical Inspector 38
7. Number of each of the following certificates issued by the Medical Inspector of Aliens :—
 - (a) Certificate that an alien is a lunatic, idiot, or mentally deficient —
 - (b) Certificate that, for medical reasons, it is undesirable that an alien should be permitted to land —
 - (c) Certificate that an alien is suffering from some disease, defect or deformity, which may interfere with his capacity to support himself or his dependants —
 - (d) Certificate that an alien is suffering from one of the acute infectious diseases ... —
 - (e) Certificate that for the purposes of an adequate medical examination, it is necessary for the alien to land in order that he may be examined ashore —

Transmigrants.

8. Number of certificates of the cleansing of verminous transmigrants given by the Medical Inspector of Aliens to the Immigration Officer	... ...	—
9. Number of medical certificates in respect of transmigrants suffering from trachoma, fevers, etc., given to the Immigration Officer...	... ...	—

Particulars relating to Alien Traffic.

10. Total number of passenger vessels carrying aliens which arrived during the year	... ...	64
Number of passenger vessels dealt with by Inspector of Aliens	... ...	48
11. Total number of cargo vessels carrying alien passengers which arrived during the year	... ...	24
Number of cargo vessels dealt with by Inspector of Aliens	... ...	5
12. Any other vessels in connection with which the Medical Inspector has had to take action in regard to aliens	... ...	1

JOHN C. HEAVEN,
L.R.C.P., M.R.C.S., D.P.H.,
Medical Inspector of Aliens.

D. S. DAVIES, M.D.,
Supervising Medical Inspector of Aliens.

BRISTOL PORT SANITARY DISTRICT.

Report of the Chief Port Sanitary Inspector for the Year, 1926.

The number of ships inspected at Avonmouth Dock or River entrance during 1926 was	776
By Tug in Walton Bay or Kingroad	—
Total	776

Number of ships bound to the Port of Gloucester, nil.
The number inspected in dock after arrival, 2,201.

The nationality and the number of ships dealt with, and defects found, were as follows :—

Nationality.	No. of Ships.	No. having Defects.
British	1,786	169
American	51	6
Belgian	3	2
Danish	20	1
Dutch	37	1
Finnish	1	1
French	25	1
German	66	2
Greek	26	14
Italian	11	7
Japanese ...	2	2
Latvian	1	1
Norwegian	109	3
Portuguese	3	1
Russian	1	—
Spanish	13	6
Swedish	46	5
Totals ...	2,201	222
	— —	— —

Percentage defective, 10.1%.

PORT SANITARY.

TABLE 22.

BRISTOL.

SHIP INSPECTION AT BRISTOL, AVONMOUTH, PORTISHEAD AND KINGROAD DURING THE YEAR 1926.

Showing particulars of inspection, the action taken, and results.

FROM FOREIGN PORTS

Description of Ships.											
1926		Steamship		Sailing		British		Foreign		Forec Castles, etc. requiring Re-painting	
British Steamers from Foreign Ports	786	—	—	786	—	—	—	22	66	Forecastles, etc. in Dirty condition	Forecastles, etc. requiring Re-painting
British Sailers from Foreign Ports	—	6	—	6	—	—	—	—	29	With Defective Ventilation or Lighting	With Defective Ventilation or Lighting
Foreign Steamers from Foreign Ports	407	—	—	407	—	—	—	3	—	Foul Bilges or Deposits	Foul Bilges or Deposits
Foreign Sailers from Foreign Ports	—	1	—	—	1	—	—	—	—	Water Closets or Paint Lockers connected with Living Spaces	Water Closets or Paint Lockers connected with Living Spaces
Totals	1,193	7	792	408	25	95	3	76	—	Defective Closets	Defective Closets
						—	—	—	—	Foul Closets	Foul Closets
						—	—	—	—	Requiring Lining of Iron Plates over Sleeping Bunks	Requiring Lining of Iron Plates over Sleeping Bunks
						—	—	—	—	Bad Water Supply or unclean Tanks	Bad Water Supply or unclean Tanks
						—	—	—	—	Leakages into Living Spaces	Leakages into Living Spaces
						—	—	—	—	Accumulation of Manure between Decks	Accumulation of Manure between Decks
						—	—	—	—	Dilapidations in Crews' Spaces	Dilapidations in Crews' Spaces
						—	—	—	—	Dirty Galleys	Dirty Galleys
						—	—	—	—	Defective Drainage	Defective Drainage
						—	—	—	—	Total Sanitary Defects	Total Sanitary Defects
						—	—	—	—	Informal Notices Complied with	Informal Notices Complied with
						—	—	—	—	Informal Notices in abeyance	Informal Notices in abeyance
						—	—	—	—	Written Notices Complied with	Written Notices Complied with
						—	—	—	—	Written Notices in Abeyance	Written Notices in Abeyance
						—	—	—	—	Ships Visited or Spoken in Kingroad or River	Ships Visited or Spoken in Kingroad or River
						—	—	—	—	Revisits to enforce Notices, Health of Crew, and Regulations carried out	Revisits to enforce Notices, Health of Crew, and Regulations carried out
						—	—	—	—	No. of Persons Inhabit- ing Ships Inspected	No. of Persons Inhabit- ing Ships Inspected

COASTWISE.

British Steamers from Coastwise }	655	—	655	—	5	29	—	1	—	—	8	—	—	3	—	—	2	—	48	46	—	—	—	24	89	12,013
British Sailors from Coastwise }	—	339	339	—	2	13	—	2	—	—	—	—	1	—	—	—	—	—	18	16	—	—	—	—	27	927
Foreign Steamers from Coastwise }	7	—	—	7	--	--	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Foreign Sailers from Coastwise }	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Total Coastwise	662	339	994	7	7	42	—	3	—	—	8	—	1	3	—	—	2	—	66	62	—	—	—	24	116	12,940
Total Foreign	1,193	7	792	408	25	95	3	76	—	9	35	2	7	10	—	—	3	3	268	158	2	5	—	726	925	40,836
Grand Total ...	1,855	346	1,786	415	32	137	3	79	—	9	43	2	8	13	—	—	5	3	334	220	2	5	—	750	1,041	53,776

No. of these defects which consisted of non-attention to general cleaning and washing operations

Total no. of ships inspected after arrival in the various docks 2201

Total no. of ships inspected after arrival in the various docks 2201
Total no. of various defects found in ships inspected 334

No. of ships in which these defects occurred 222
No. of ships in which fumigation was carried out at request of owners, certificates given by Port M.O.H. 36

No. of ships in which fumigation was carried out at request of owners, certificates given by Port M.O.H. 36
 Total no. of dirty or infected beds destroyed ? 404

Total no. of dirty or infected beds destroyed 2,404
 Total no. of bilges disinfected 88

Total no. of bilges disinfected 88
 Special rat precautions on ships from plague-infested areas 24

Special rat precautions on ships from plague-infected ports 24
 No. of special visits made to ships from "A" 110

1926.

TABLE 23.

Class of Vessels.	Number Inspected	Number having Defects	No. of Notices Issued.	Per-cent-age Defective.
From Foreign ...	1,200	160	160	13.3
From Coastwise	1,001	62	62	6.2
<i>Total</i>	2,201	222	222	10.1
British steamers	1,441	153	153	10.6
,, sailors ...	345	16	16	4.6
<i>Total</i>	1,786	169	169	9.4
Foreign steamers	414	53	53	12.8
,, sailors	1	—	—	—
<i>Total</i>	415	53	53	12.8

TABLE 24.

**List of Foreign Ports from which ships have arrived
1926 and have been inspected.**

Name of Port or District	No. of Vessels	Name of Port or District	No. of Vessels
French ...	108	Newport News and Norfolk, Va	43
Dutch and Belgian ...	131	New Orleans and Gulf of Mexico ...	74
Norwegian, Swedish and Danish ...	71	Jamaica and Port Limon ...	70
Russian and Finnish ...	23	Philadelphia, Savannah, Boston and Baltimore	33
Spanish & Portuguese...	82	Japan ...	1
German ...	118	New York and Portland (Me) ...	43
Italian ...	3	Canadian Ports ...	80
Greek ...	2	River Plate, Bahia, Blanco, and Rio de Janeiro ...	41
Alexandria and Malta...	5	Manchuria ...	1
Persian Gulf ...	6	Rumanian ...	4
North African ...	14	Turkey in Asia ...	4
South ,, ...	1	Trinidad ...	1
East African ...	3	Tela, Honduras, and Canary Islands ...	2
West African ...	3	Peru and Chili ...	2
East Indies, West Indies, Java, and Singapore	10	Irish Free State ...	108
Dutch West Indies ...	3	Channel Islands ...	14
Bombay, Calcutta, Rangoon, & Karachi	13	Black Sea ...	30
Australia and New Zealand ...	38		
San Francisco and Portland (Oregon) ...	15		
		<i>Total</i>	1,200

The Port Sanitary Inspectors and Assistant Inspectors have discharged their duties with zeal and thoroughness.

I beg to acknowledge the assistance and information received from the Port Sanitary Officers of Cardiff, Newport, Barry, and Swansea, in following up ships on which requirements had been made.

J. A. ROBINSON,

Chief Port Sanitary Inspector.

D. S. DAVIES, M.D.,

Port Medical Officer of Health.

**REPORT OF CANAL BOAT INSPECTION
FOR THE YEAR, 1926.**

I beg to submit a report in accordance with the requirements of Section 3 of the Canal Boats Act, as to the work done in carrying out the Regulations during the year 1926, with a summary of the contraventions and defects found in the canal boats examined.

1. The duties have been discharged by the Chief Port Sanitary Inspector and an Assistant Inspector, in conjunction with ship inspection work.
2. The number of inspections made was 45, confined to four boats which are used regularly. No women or children are carried on board boats in this district.
3. *Particulars of Inspection—*
 - (a) **Registration.**—All boats have been registered at some time.
 - (b) **Notification of Change of Masters.**—This Authority is not a Registration Authority, consequently no notifications have been received.
 - (c) **Certificates.**—Certificates were produced when required.
 - (d) **Marking.**—All boats inspected were properly marked.
 - (e) **Overcrowding.**—None was discovered or reported.
 - (f) **Separation of Sexes.**—No infringement was found.
 - (g) **Cleanliness.**—Cabins were kept fairly clean. Two notices were served and complied with.
 - (h) **Ventilation.**—The regulation openings were available in all cases.
 - (i) **Painting of Cabin Interiors.**—One notice was served and complied with.
 - (j) **Provision of water casks.**—No contravention of the Regulations was found. Two gallon stoneware jars are used.
 - (k) **Removal of Bilge Water.**—No excessive accumulations were noted.
 - (l) **Notification of Infectious Disease.**—No cases were found or reported.
 - (m) **Refusal to admit.**—None.
 - (n) **Dilapidations.**—No infringement was found.
4. No legal proceedings have been required.
5. One notice was served to paint cabin, and complied with.
6. Two notices were served to wash and cleanse—these were complied with.
7. No notices were served for bilges to be bailed out.
8. Any cases arising of an infectious nature would be dealt with and isolated by the Port Sanitary Committee.
9. No detention of boats was required.
10. No register kept.

J. A. ROBINSON,
*Chief Port Sanitary Inspector
and Inspector of Canal Boats.*

D. S. DAVIES, M.D.,
Port Medical Officer of Health.

PORT OF BRISTOL.

**REPORT ON PUBLIC HEALTH (REGULATIONS AS TO
FOOD) ACT, 1907.**

Amount of food found unsound which was destroyed or otherwise dealt with so as not to be used for human food.

			tons	cwts.	qrs.	lbs
1. Fresh or frozen beef, etc.						
Fresh pork	5 carcases	...	—	5	0	0
Lamb	4 „	...	—	1	2	16
Ox skirts	1 bag	...	—	—	3	2
2. Cured or salted beef and pork.						
Bacon and hams	...	...	—	1	3	0
3. Canned Goods, Meats, etc.						
Mutton and lunch tongue	54 tins	...	—	2	2	14
Salmon	... 10 „	...	—	—	—	10
Fruit,	... 231 „	...	—	4	—	24
4. Fish and dried fruit and vegetables, etc.	...	...		
Apples	45 barrels	...	2	5	—	—
Carrots	50 bags	...	2	10	—	—
Grape fruit	170 cases	...	8	10	—	—
Lemon Peel	26 pipes	...	11	14	—	—
Melons	120 cases	...	6	—	—	—
Onions	252 cases	...	12	12	—	—
Oranges & mandarines	2,303 cases	...	115	3	—	—
Potatoes	650 bags	...	32	10	—	—
Tomatoes	7 cases	...	—	7	—	—
5. Other foods.						
Barley	126 bushels	...	3	7	2	—
Catchup	14 bottles	...	—	—	—	9
Evaporated Milk	3 tins	...	—	—	—	3
Force	13 cases	...	—	2	2	12
Flour	128 sacks	...	8	—	—	—
Lard	73 boxes	...	1	16	2	—
Linseed	18 sacks	...	1	2	2	14
Macaroni	2 cases	...	—	—	2	—
Maize	358 bushels	...	9	11	3	4
Oats	8 bushels	...	—	4	1	4
Quaker Oats	33 packets	...	—	—	1	5
Rice	129 bags	...	8	1	1	—
Wheat	1,617 bushels	...	43	6	1	—

J. A. ROBINSON,

Chief Port Sanitary Inspector.

D. S. DAVIES, M.D.,

Port Medical Officer of Health.

